DO NOT TYPE IN THIS BOX
Bulletin #: _____ Academic Year: _____

FLORIDA INTERNATIONAL UNIVERSITY
UNDERGRADUATE PROGRAM PROPOSAL

New *Undergraduate Degree Program*

INSTRUCTIONS: Please Type. Fill out this form **completely.**

School/College Engineering and Computing

Div./Dept. School of Computing and Information Sciences

Degree Program Title: Bachelor of Science in Cybersecurity

☐ B.A. ■ B.S. ☐Other Bachelor's _____

Proposed Implementation Date: 8/24/2020

PROPOSAL REQUESTED BY:

Faculty Contact Nagarjan Prabakar ____/____/20 19
(Type Name) (Signature)
prabakar@cis.fiu.edu 305-348-2033
(Email address) (Phone Number)

Chair (Dept./Div.) S.S. Iyengar ____/____/20 19
(Type Name) (Signature)

Chair (Curr. Comm.) Wei-Chiang Lin ____/____/20 19
(Type Name) (Signature)

College/School Dean John Volakis ____/____/20 19
(Type Name) (Signature)

JOINT HEARING REQUIRED. PLEASE SUBMIT ORIGINAL FORM.

DO NOT TYPE IN THIS BOX
Bulletin #: _____ Academic Year: _____

NEW *UNDERGRADUATE DEGREE*

PLEASE SUBMIT THIS FORM WITH YOUR PROPOSAL

Please fill out the coversheet in its entirety.

A new program must first be added by the Office of the Provost to the 5-year Master Plan for the University and must follow the process flow chart. The first step in this process is a Feasibility Study. After the program Feasibility Study is approved, the program proposal must adhere to the strict Proposal Format for a New Graduate Degree Program and must include the appropriate Tables. You may access these documents by visiting the Office of the Provost website here.

The proposal must include the following elements. All of these element topics, along with their details, are described in the proposal format document also available at the above link.

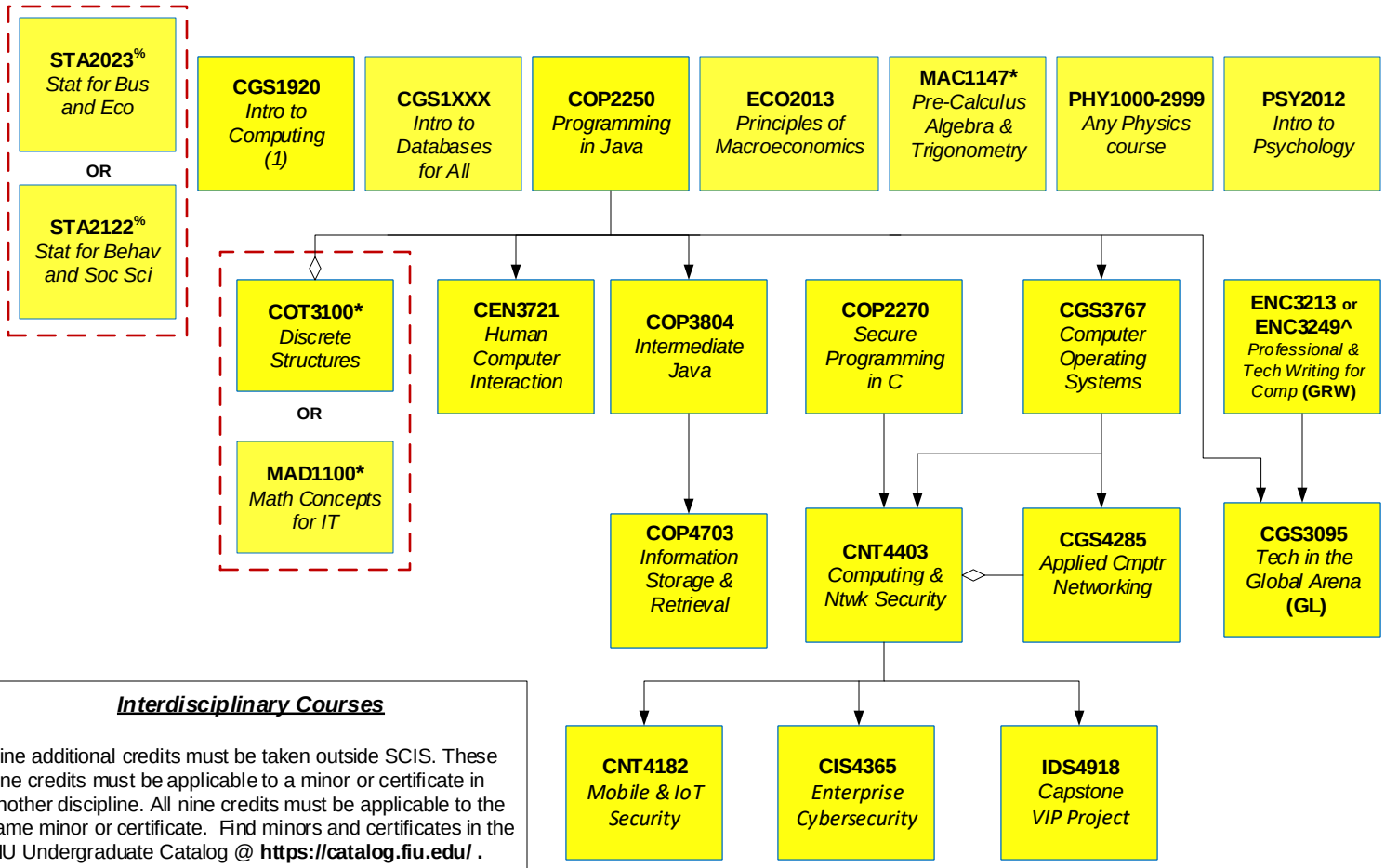
I. Degree Description - The structure of the New Degree must follow the Board of Governors Policy for New Degree Program Authorization.
II. Institutional Mission and Strength
III. Program Quality- Reviews and Accreditation
IV. Curriculum
V. Assessment of Current and Anticipated Faculty
VI. Assessment of Current and Anticipated Resources
VII. Assessment of Need and Demand
VIII. Budget
IX. Productivity
X. Access

CHECK LIST

		Yes	No
1.	Has a Feasibility Study been approved by the Office of the Provost?	☐	☐
2.	Have all the elements in I-X above been addressed along with tables?	☐	☐
3.	Do all courses exist in the current catalog?	☐	☐
4.	If courses are not in the current catalog, are they proposed in the same Curriculum Committee Bulletin as this proposal?	☐	☐
5.	If courses are not in the current catalog or proposed in this same Bulletin, were they approved in a previous curriculum bulletin? If yes, attach a separate sheet indicating each course number, name, Bulletin number and Bulletin date. If the answers to 1, 2, and 3 are no, do not submit the proposal. Address the course issues first.	☐	☐
6.	Do courses listed have the correct course prefixes, official titles, course numbers and number of credits?	☐	☐
7.	Do course descriptions match the existing catalog or proposed course descriptions?		
8.	Are all courses to be added taught in the same proposing department?	☐	☐
	If the answer to #8 is no, do you have the written approval/ acknowledgment of the other department(s)? (You must have written approval before submitting this document.)	☐	☐
9.	The written approval(s)/acknowledgment(s) must be attached.	☐	☐
10.	Have you contacted assessment@fiu.edu to obtain approval of your Student Learning Outcomes and Program Outcomes? If not, please do so prior to submitting this form.		

FIU Computing & Information Sciences

Bachelor of Science in Cybersecurity (effective Fall 2020)



Interdisciplinary Courses

Nine additional credits must be taken outside SCIS. These nine credits must be applicable to a minor or certificate in another discipline. All nine credits must be applicable to the same minor or certificate. Find minors and certificates in the FIU Undergraduate Catalog @ **https://catalog.fiu.edu/ .**
Pending advisor approval.

All courses are 3 credits except as noted.

Electives: Choose 3 electives (3 credits each)

- ❑ **CGS 4854 Website Construction Mngmt (Prereq: COP3804)**
- ❑ **CIS 4431 IT Automation (Co-req: CGS4285)**
- ❑ **CNT 4504 Advanced Ntwk Mngmt (Prereq: CNT4513)**
- ❑ **CNT 4513 Data Communication (Prereq: COP3804 & CGS4285)**
- ❑ **CNT 4603 Windows System Admin (Prereq: CGS3767)**
- ❑ **COP 4005 Windows Prmg for IT (Prereq: COP3337 & CEN3721, Co-req: COP4703)**
- ❑ **COP 4655 Mobile Appl Prgm (Prereq: COP4814 & CEN3721)**
- ❑ **COP 4722 Survey of DB System (Prereq: COP4703)**
- ❑ **COP 4813 Web Appl Prgm (Prereq: COP4005 & CGS4854)**
- ❑ **COP 4814 Component Based Sftw Dev (Prereq: COP4703 & CGS4854)**
- ❑ **CTS 4348 Unix System Admin (Prereq: CGS3767)**
- ❑ **CTS 4408 DB Admin (Prereq: COP4703)**
- ❑ **CTS 4743 Enterprise IT Troubleshoot (Prereq: COP-4703 & (CNT-4403 or EEL-4806))**
- ❑ **EEL 4802 Introduction to Digital Forensics Engineering (Prereq: CNT4403)**
- ❑ **EEL 4804 Introduction Malware Reverse Engineering (Prereq: CNT4403)**

% STA2023 & STA2122 Prerequisite is High school algebra.

*** MAC1147, MAD1100 & COT3100** Math prerequisite is MAC1105.

^ ENC3213/ ENC3249 prerequisite: complete the UCC English requirements

A line indicates a prerequisite. The course above must be completed before the course below can be taken.

A diamond indicates a co-requisite. The course closer to the diamond may be taken at the same time as the co-requisite. The co-requisite is a prerequisite for any course that requires the course closer to the diamond.

Board of Governors, State University System of Florida

Request to Offer a New Degree Program

(Please do not revise this proposal format without prior approval from Board staff)

Florida International University	**Fall 2020**
University Submitting Proposal	**Proposed Implementation Term**
Engineering and Computing	**Computing and Information Sciences**
Name of College(s) or School(s)	**Name of Department(s)/ Division(s)**
Cybersecurity	**Bachelor of Science in Cybersecurity**
Academic Specialty or Field	**Complete Name of Degree**
11.1003	
Proposed CIP Code	

The submission of this proposal constitutes a commitment by the university that, if the proposal is approved, the necessary financial resources and the criteria for establishing new programs have been met prior to the initiation of the program.

Date Approved by the University Board of Trustees	**President**	**Date**
Signature of Chair, Board of Trustees	**Date**	**Vice President for Academic Affairs**	**Date**

Provide headcount (HC) and full-time equivalent (FTE) student estimates of majors for Years 1 through 5. HC and FTE estimates should be identical to those in Table 1 in Appendix A. Indicate the program costs for the first and the fifth years of implementation as shown in the appropriate columns in Table 2 in Appendix A. Calculate an Educational and General (E&G) cost per FTE for Years 1 and 5 (Total E&G divided by FTE).

Implementation Timeframe	Projected Enrollment (From Table 1)		Projected Program Costs (From Table 2)				
	HC	FTE	E&G Cost per FTE	E&G Funds	Contract & Grants Funds	Auxiliary Funds	Total Cost
Year 1	375	375	$3,281	$1,230,213	0	0	$1,230,213
Year 2	525	525					
Year 3	550	550					
Year 4	600	600					
Year 5	675	675	$3,027	$2,043,039	0	0	$2,043,039

Note: This outline and the questions pertaining to each section must be reproduced within the body of the proposal to ensure that all sections have been satisfactorily addressed. Tables 1 through 4 are to be included as Appendix A and not reproduced within the body of the proposals because this often causes errors in the automatic calculations.

INTRODUCTION

I. Program Description and Relationship to System-Level Goals

A. Briefly describe within a few paragraphs the degree program under consideration, including (a) level; (b) emphases, including majors, concentrations, tracks, or specializations; (c) total number of credit hours; and (d) overall purpose, including examples of employment or education opportunities that may be available to program graduates.

This is a 120-credit undergraduate degree B.S. in Cybersecurity (CyS). As this program requires programming knowledge with some basic math skills, it leverages the existing information technology curriculum requirement with Pre-Calculus and Discrete Structures. A very few universities offer a B.S. in Cybersecurity including USF, WF, Purdue, University of California-Berkeley, University of Minnesota, University of Indiana, and University of Colorado. This program will provide opportunities to a large base of the student population to pursue applied cybersecurity careers. B.S. Cybersecurity graduates would complete at least 45 upper division credits (36 core credits and 9 elective credits) in Cybersecurity and graduate with the cyber expertise necessary for meeting several workforce area needs. Employment opportunities include: Computer Security Specialist, Computer Systems Security Analyst, Information Security Analyst, Internet Security Specialist, and Network Security Analyst. The Department of Labor projects more than 128,000 information security related jobs by 2026. In addition to tremendous employment opportunities, this program would also feed in to our MS in Cybersecurity and MS in Information Technology degree programs.

B. Please provide the date when the pre-proposal was presented to CAVP (Council of Academic Vice Presidents) Academic Program Coordination review group. Identify any concerns that the CAVP review group raised with the pre-proposed program and provide a brief narrative explaining how each of these concerns has been or is being addressed.

The proposal was presented to the CAVP Academic Coordination review group on September 25, 2019. As FIU already has approval to offer a bachelor degree in this CIP code, no other approval from the group was necessary.

C. If this is a doctoral level program please include the external consultant's report at the end of the proposal as Appendix D. Please provide a few highlights from the report and describe ways in which the report affected the approval process at the university.

N/A

D. Describe how the proposed program is consistent with the current State University System (SUS) Strategic Planning Goals. Identify which specific goals the program will directly support and which goals the program will indirectly support (see link to the SUS Strategic Plan on the resource page for new program proposal).

The BS in Cybersecurity directly supports three of the SUS Strategic Planning Goals:

- Increase Degree Productivity and Program Efficiency
- Increase the Number of Degrees Awarded in STEM and Other Areas of Strategic Emphasis
- Increase Community and Business Workforce

Within three years of creation of this new BS degree, it is expected that the number of CyS degrees awarded will double from three-year average of 70 per year to 140 per year. These degrees support the three goals with this large increase in graduates eligible to enter the South Florida workforce.

This security focused program (compared to current BS in Information Technology) provides alternate pathways for our students, thus FIU will increase the retention rate, graduation rate, and number of STEM degrees. The graduates of this program will raise the percentage of employed graduates earning

more than $25,000, and will also increase the average wages of our graduates. By removing courses in a degree program that has a large number of requirements and providing more flexibility, we will also reduce the number of students graduating with excess credit hours. This BS degree would turn "majors" into "graduates" and fulfill FIU's mission of meeting the educational needs of the South Florida community. Justification for these claims are provided in II.B below.

E. If the program is to be included in a category within the Programs of Strategic Emphasis as described in the SUS Strategic Plan, please indicate the category and the justification for inclusion. Enter "Not Applicable" if proposed degree CIP code is not identified by BOG to meet one of these areas.

Cybersecurity (11.1003) is classified as STEM in the programs of strategic emphasis. Additionally, based on the 2013 report of the Commission on Higher Education Access and Educational Attainment, Cybersecurity is the top field identified in this Gap Analysis report.
http://www.flbog.edu/about/commission.php

F. Identify any established or planned educational sites at which the program is expected to be offered and indicate whether it will be offered only at sites other than the main campus.

This program will be offered at the (main) Modesto A. Maidique Campus.

INSTITUTIONAL AND STATE LEVEL ACCOUNTABILITY

II. Need and Demand

A. Need: Describe national, state, and/or local data that support the need for more people to be prepared in this program at this level. Reference national, state, and/or local plans or reports that support the need for this program and requests for the proposed program which have emanated from a perceived need by agencies or industries in your service area. Cite any specific need for research and service that the program would fulfill.

The need for cybersecurity majors was documented in http://www.flbog.edu/about/commission.php Additionally, the Bureau of Labor Statistics indicates that more than 70% of new STEM jobs created in the next decade will be in computer science related fields.

B. Demand: Describe data that support the assumption that students will enroll in the proposed program. Include descriptions of surveys or other communications with prospective students.

In each of the last two years, FIU admitted 100 students who unfortunately will not be able to complete the Calculus requirements. Additionally, many seniors who are successfully completing all the CS major requirements, except those in math and physics, remain trapped in the program, or abandon their degree. Michael Casperson's Ph.D. thesis showed that there is no correlation between math ability and object-oriented programming skill. Other studies have shown no correlation between math ability and performance in computing careers. A recent peer reviewed study "Women 1.5 Times More Likely to Leave STEM Pipeline after Calculus Compared to Men: Lack of Mathematical Confidence a Potential Culprit" (Ellis, Fosdick, Rasmussen) suggests that removing this unneeded Calculus sequence will also allow us to attract more females into Computing; females account for 56% of FIU's undergraduate population, vs. 13-16% of CS majors, and women at FIU graduate at roughly 13% higher rates (recently 61% vs 48% 6-year FTIC rates). Thus our enrollment estimates which are based primarily on the exploratory group are extremely conservative.

C. If substantially similar programs (generally at the four-digit CIP Code or 60 percent similar in core courses), either private or public exist in the state, identify the institution(s) and geographic location(s). Summarize the outcome(s) of communication with such programs with regard to the potential impact on their enrollment and opportunities for possible

collaboration (instruction and research). In Appendix C, provide data that support the need for an additional program.

This question is not applicable because the proposed program subsets our existing degree program, and is intended to enhance our own production of degrees by offering an alternative pathway to students who would otherwise not be graduating with a degree in what is the BOG's highest priority area.

D. Use Table 1 in Appendix A (1-A for undergraduate and 1-B for graduate) to categorize projected student headcount (HC) and Full Time Equivalents (FTE) according to primary sources. Generally undergraduate FTE will be calculated as 30 credit hours per year and graduate FTE will be calculated as 24 credit hours per year. Describe the rationale underlying enrollment projections. If students within the institution are expected to change majors to enroll in the proposed program at its inception, describe the shifts from disciplines that will likely occur.

The estimates include a large number of upper division students who will be transferring from being officially BS in Information Technology to BS in Cybersecurity; note however, that many of those students were unsuccessful in the IT program, or even inactive. It also includes lower division students, even in the first year, who were in the "exploratory Computer Science track", not having been able to complete the mathematics requirements. Those students (roughly 100 admitted in 2014-15 and 100 admitted in 2015-16) would likely be unsuccessful in the existing BS in Computer Science, but would progress from lower division to upper division in yrs 1 and 2. In future years, we anticipate even more students due to the national trend of increasing Cybersecurity major. Similarly, we expect many transfer students from Florida State Colleges, many of whom also struggle with the math/science requirements, with numbers increasing following the national trend.

E. Indicate what steps will be taken to achieve a diverse student body in this program. If the proposed program substantially duplicates a program at FAMU or FIU, provide, (in consultation with the affected university), an analysis of how the program might have an impact upon that university's ability to attract students of races different from that which is predominant on their campus in the subject program. <u>The university's Equal Opportunity Officer shall review this section of the proposal and then sign and date Appendix B to indicate that the analysis required by this subsection has been completed</u>.

This program is offered at FIU, which is a majority Hispanic institution and the nation's leading producer of Hispanic computing graduates, and top-three producer of Black computing graduates. Further, the proposal addresses a problem identified by national research in the retention of female STEM majors.

III. Budget

A. Use Table 2 in Appendix A to display projected costs and associated funding sources for Year 1 and Year 5 of program operation. Use Table 3 in Appendix A to show how existing Education & General funds will be shifted to support the new program in Year 1. In narrative form, summarize the contents of both tables, identifying the source of both current and new resources to be devoted to the proposed program. (Data for Year 1 and Year 5 reflect snapshots in time rather than cumulative costs.)

The university is receiving Information Technology Performance Funding with the goal of increasing the number of employed graduates in Information Technology related fields that specifically includes Computer Science. These funds will be used to grow the number of Cybersecurity graduates as intended by the legislature. Funding is provided for non-tenure track instructors (plus summer support), assistant professors, adjuncts, an additional professional advisor, secretary support, a STEM/Internship Coordinator and Program Director position, undergraduate peer teaching assistants, technical support staff, and funds for refreshing computer lab equipment.

B. Please explain whether the university intends to operate the program through continuing

education, seek approval for market tuition rate, or establish a differentiated graduate-level tuition. Provide a rationale for doing so and a timeline for seeking Board of Governors' approval, if appropriate. Please include the expected rate of tuition that the university plans to charge for this program and use this amount when calculating cost entries in Table 2.

The funding for the program should be viewed as if it were a doubling (perhaps tripling) of the existing B.S. programs in computing field in terms of degree production. The State has provided IT Performance Funding for this specific purpose and it will be operated as a regular E&G program.

C. If other programs will be impacted by a reallocation of resources for the proposed program, identify the impacted programs and provide a justification for reallocating resources. Specifically address the potential negative impacts that implementation of the proposed program will have on related undergraduate programs (i.e., shift in faculty effort, reallocation of instructional resources, reduced enrollment rates, greater use of adjunct faculty and teaching assistants). Explain what steps will be taken to mitigate any such impacts. Also, discuss the potential positive impacts that the proposed program might have on related undergraduate programs (i.e., increased undergraduate research opportunities, improved quality of instruction associated with cutting-edge research, improved labs and library resources).

The IT Performance Funding is for this specific purpose and will be spent to grow Cybersecurity. We expect no impacted programs; students will be able to choose the most appropriate computing-related programs housed in the School of Computing and Information Sciences, minimizing excess hours, repeated coursework, attrition, and student debt.

D. Describe other potential impacts on related programs or departments (e.g., increased need for general education or common prerequisite courses, or increased need for required or elective courses outside of the proposed major).

Since a large number of IT majors currently exist, and this creates an alternate pathway, their general education needs are already met. As the university gears up to meet its increased enrollment goals, additional funding will be available to meet the increased demand for lower division courses.

E. Describe what steps have been taken to obtain information regarding resources (financial and in-kind) available outside the institution (businesses, industrial organizations, governmental entities, etc.). Describe the external resources that appear to be available to support the proposed program.

N/A for this particular program; however, FIU's partnerships include local industry such as Ultimate Software, IBM, Kaseya, and Cisco who have provided support for our students and in writing federal grant proposals. FIU is currently receiving an NSF grant for scholarships for undergraduate CS students (2016-21).

IV. Projected Benefit of the Program to the University, Local Community, and State

Use information from Tables 1 and 2 in Appendix A, and the supporting narrative for "Need and Demand" to prepare a concise statement that describes the projected benefit to the university, local community, and the state if the program is implemented. The projected benefits can be both quantitative and qualitative in nature, but there needs to be a clear distinction made between the two in the narrative.

Some studies have shown no correlation between math ability and performance in computing careers, and one study has shown no correlation between math ability and object oriented programming skill. A recent study shows that the Calculus I course is a barrier for women in STEM fields compared to men, with the difference being especially high in Engineering-related STEM fields. Creating an alternative program that removes these barriers will increase graduation and retention rates in computing-related

programs and address the critical shortage in Florida of talent in Cybersecurity positions. Growth in Computer Science is extraordinary and well-known, with roughly 800 active "official" undergraduate majors in Computer Science at FIU, a number that has roughly doubled over the last six years (but is stagnant in the last two). Yet while the number of IT graduates has grown rapidly, FIU has graduated only roughly 220 CS majors over the last three years combined, and our analysis points at the math sequence as being a roadblock. FIU would close the exploratory track and intended CS majors who are weak at math would be directed to this new BS degree program automatically if they entered FIU without the prerequisite needed for Calculus I, so that they can finish in a timely fashion, possibly without the excess hours incurred by repeated attempts at math courses. This BS degree would turn "majors" into "graduates" and fulfill FIU's mission of meeting the educational needs of the South Florida community.

V. Access and Articulation – Bachelor's Degrees Only

A. If the total number of credit hours to earn a degree exceeds 120, provide a justification for an exception to the policy of a 120 maximum and submit a separate request to the Board of Governors for an exception along with notification of the program's approval. (See criteria in Board of Governors Regulation 6C-8.014)

N/A

B. List program prerequisites and provide assurance that they are the same as the approved common prerequisites for other such degree programs within the SUS (see link to the Common Prerequisite Manual on the resource page for new program proposal). The courses in the Common Prerequisite Counseling Manual are intended to be those that are required of both native and transfer students prior to entrance to the major program, not simply lower-level courses that are required prior to graduation. The common prerequisites and substitute courses are mandatory for all institution programs listed, and must be approved by the Articulation Coordinating Committee (ACC). This requirement includes those programs designated as "limited access."

If the proposed prerequisites are not listed in the Manual, provide a rationale for a request for exception to the policy of common prerequisites. NOTE: Typically, all lower-division courses required for admission into the major will be considered prerequisites. The curriculum can require lower-division courses that are not prerequisites for admission into the major, as long as those courses are built into the curriculum for the upper-level 60 credit hours. If there are already common prerequisites for other degree programs with the same proposed CIP, every effort must be made to utilize the previously approved prerequisites instead of recommending an additional "track" of prerequisites for that CIP. Additional tracks may not be approved by the ACC, thereby holding up the full approval of the degree program. Programs will not be entered into the State University System Inventory until any exceptions to the approved common prerequisites are approved by the ACC.

Common Prerequisite Courses and Equivalencies (CIP Code 11.1003, Track 6 of 6)

FIU Course(s)	Equivalent Course(s)
MAC 1140	MACx140
STA 2023	STAx122 or STAx023

For generic course substitutions/equivalencies for Common Program Prerequisites offered at community colleges, state colleges, or state universities, visit: **http://www.flvc.org**, See Common Prerequisite Manual.
STA 2023 may be replaced with STA-2122 or STA-3111.

C. If the university intends to seek formal Limited Access status for the proposed program, provide a rationale that includes an analysis of diversity issues with respect to such a designation. Explain how the university will ensure that Florida College System transfer students are not disadvantaged by the Limited Access status. NOTE: The policy and criteria for Limited Access are identified in Board of Governors Regulation 6C-8.013. Submit the Limited Access Program Request form along with this document.

N/A

D. If the proposed program is an AS-to-BS capstone, ensure that it adheres to the guidelines approved by the Articulation Coordinating Committee for such programs, as set forth in Rule 6A-10.024 (see link to the Statewide Articulation Manual on the resource page for new program proposal). List the prerequisites, if any, including the specific AS degrees which may transfer into the program.

N/A

INSTITUTIONAL READINESS

VI. Related Institutional Mission and Strength

A. Describe how the goals of the proposed program relate to the institutional mission statement as contained in the SUS Strategic Plan and the University Strategic Plan (see link to the SUS Strategic Plan on the resource page for new program proposal).

FIU's mission states: Florida International University is an urban, multi-campus, public research university serving its students and the diverse population of South Florida. We are committed to high-quality teaching, state-of-the-art research and creative activity, and collaborative engagement with our local and global communities.

Based on its mission, FIU's *BeyondPossible2020* Strategic Plan identifies several goals.
This program supports the highest-priority goals by increasing the retention rate, graduation rate, and number of STEM degrees. The graduates of this program will raise the percentage of employed graduates earning more than $25,000, and will also increase the average wages of our graduates. By removing courses in a degree program that has a large number of requirements and providing more flexibility, the School of Computing and Information Sciences will also reduce the number of students graduating with excess credit hours.

B. Describe how the proposed program specifically relates to existing institutional strengths, such as programs of emphasis, other academic programs, and/or institutes and centers.

The School of Computing and Information Sciences is already one of the top programs at FIU, ranked #39 by NSF in research expenditures. The School graduates the seventh-most undergraduate computing majors in the US according to ASEE, including ranking #1 in Hispanic and #3 in Black graduates. FIU was ranked #1 by the State University System in IT Performance, has partnered with UCF and USF on a highly successful FLBOG TEAm grant, and is leading a 5-yr, $5M NSF S-STEM grant, also with UCF and USF. Graduates of both our undergraduate CS and undergraduate IT program are #1 in the SUS in employability, based on the most recent FETPIP survey. Appendix C provides a sampling of job placement for our graduates.

C. Provide a narrative of the planning process leading up to submission of this proposal. Include a chronology in table format of the activities, listing both university personnel directly involved and external individuals who participated in planning. Provide a timetable of events necessary for the implementation of the proposed program.

The planning process has been ongoing for twenty years. The idea of creating an alternative pathway for CS majors were proposed by Computer Science faculty in the 1990s, and approved by the CS faculty in 2001 as a B.S. in Information Technology. It was not moved forward by the College administration at that time. Courses such as COP-3465 (Data Structures for IT), which have no math prerequisite remain in the catalog, having never been taught. Eventually a B.S. in Information Technology was approved; however, it emerged as a separate discipline, with a different set of courses and focus than Computer Science, and

many CS majors have been successfully redirected to the Information Technology program. The Exploratory CS options, in which CS majors are held until they can pass pre-calculus has shown that there is a large contingent of CS majors who specifically want CS, not IT, and need a math-reduced alternative. Recent research has contradicted widely held beliefs that math is essential for CS graduates in the workforce, as the dominance of numerical applications for computing in the 1960-1980s has receded; hence, it is appropriate to consider creation of this degree program now. As this is a subset, the main requirement will be to have additional faculty in place to handle an anticipated large increase in the number of actual students taking our courses at full loads.

Planning Process

Date	Participants	Planning Activity
Spring 2019	School administrator meetings with invited outside CS experts brought to FIU for lecture series and grant partnership opportunities	Discussions with many visitors concerning math requirements in CyS
Jun 22, 2019	Nagarajan Prabakar and Mark Weiss, Assoc. Dean of Undergraduate Education at CEC	Discussions regarding BS in CyS timeline
Aug 27, 2019	Nagarajan Prabakar and Susan Himburg, AVP Academic Planning and Accountability	Discussions, consistency check vs. state requirements, preliminary budgeting
Sep 6, 2019	Nagarajan Prabakar initial presentation to SCIS Curriculum Committee	Discussions
Oct 16, 2019	Nagarajan Prabakar second presentation to SCIS Curriculum Committee	Discussions and committee approval
Oct 18, 2019	Nagarajan Prabakar presentation to SCIS Faculty	Discussions and faculty approval

Events Leading to Implementation

Date	Implementation Activity
Sep 25, 2019	Council of Academic Vice Presidents Working Group Pre-proposal approved
Oct 24, 2019	Submission to College of Engineering and Computing Curriculum Committee for approval
Nov 6, 2019	Submit to Faculty Senate Curriculum Committee (Bulletin # 2)
Jan 14, 2020	Faculty Senate Approval
Mar 3, 2020	BOT vote for approval
Spring 2020	Submission to BOG staff for addition to degree inventory

VII. Program Quality Indicators - Reviews and Accreditation

Identify program reviews, accreditation visits, or internal reviews for any university degree programs related to the proposed program, especially any within the same academic unit. List all recommendations and summarize the institution's progress in implementing the recommendations.

The School of Computing and Information Sciences is currently undergoing both a seven-year program review for all degree programs, as well as an ABET review for continuing accreditation of its B.S. in Computer Science program. The informal findings of the ABET review shared with President Rosenberg indicated an exceptional program.

VIII. Curriculum

A. Describe the specific expected student learning outcomes associated with the proposed program. If a bachelor's degree program, include a web link to the Academic Learning Compact or include the document itself as an appendix.

The ALC for the B.S. in Cybersecurity is shown below. The outcomes will be evaluated via embedded assessment in the following required courses: CGS-3095 and IDS-4918.

Name of the Undergraduate Degree Program	
Bachelor of Science in Cybersecurity	
Student Learning Outcomes	
FIU Computer Science graduates should be able to achieve the following:	
Content/Discipline Knowledge	**Direct Measures**
1. Demonstrate proficiency in at least one modern programming language.	Method: Student projects in the Software Engineering course (CEN-4010) are evaluated to assess the level of student achievement. The evaluation is done by a panel of at least two faculty members. Expected Criterion: Every student will demonstrate proficiency or better in a modern programming language on the following scoring rubric: Novice/Apprentice/Proficient/Expert
Critical Thinking	**Direct Measures**
1. Demonstrate proficiency in design and implementation of modern computer systems	Method: Student projects in the Capstone VIP Project (IDS-4918) are evaluated to assess the level of student achievement. The evaluation is done by a panel of at least two faculty members. Expected Criterion: Every student will demonstrate proficiency or better in design and implementation of modern computer systems on the following scoring rubric: Novice/Apprentice/Proficient/Expert
Oral and Written Communication	**Direct Measures**
1. Demonstrate effective oral communication skills in the field of computer science. 2. Demonstrate effective written communication skills in the field of computer science.	Method: Separate student achievements in term papers (written) and presentations (oral) in CGS 3095 (Technology in the Global Arena) are evaluated to assess student achievement in effective communication skills. The evaluation is done by a panel of at least two faculty members. Expected Criterion: Every student will demonstrate adequate oral communications skills and adequate written communication skills on the following scoring rubric: Deficient/Adequate/Superb

B. Describe the admission standards and graduation requirements for the program.

Students must follow regular University admission procedures and upon admission declare their specific major as Computer Science. Students must complete the program as shown below, with 120 credits, 2.0 GPA.

C. Describe the curricular framework for the proposed program, including number of credit hours and composition of required core courses, restricted electives, unrestricted electives, thesis requirements, and dissertation requirements. Identify the total numbers of semester credit hours for the degree.

Lower Division

Students must complete the following courses as part of their course work, preferably during the first 60 credits:

Common Prerequisite Courses and Equivalencies

FIU Course(s)	Equivalent Course(s)
MAC 1140	MACx140
STA 2023	STAx122 or STAx023

STA 2023 may be replaced with STA-2122 or STA-3111.

Required Courses

Courses Required for the Degree: (students admitted with less than 55 credits)

CGS 1920	Introduction to Computing	1
CGS 1540	Introduction to Databases for All	3
ECO 2013	Principles of Macroeconomics	3
MAC 1147	Pre-Calculus Alg & Trig	3
PHY XXXX	Any Physics course	3
PSY 2012	Introduction to Psychology	3

Upper Division Requirements

At least 50% of the upper division credits required for the BS in Cybersecurity must be taken at FIU.

Courses Required for the Degree:

Third and Fourth Years – 40 credits

COT 3100	Discrete Structures	3
	OR	
MAD 1100	Math Concepts for IT	3
ENC 3249	Professional and Technical Writing for Computing	3
CGS 3095	Technology in the Global Arena–*GL*	3
COP 2250	Programming in Java	3
COP 2270	C for Engineers	3
COP 3804	Intermediate Java	3
CDA 3103	Fundamentals of Computer Systems	3
COP 3530	Data Structures	3
COP 4710	Database Management	3
CDA 4101	Structured Computer Organization	3
CEN 4010	Software Engineering I	3
CNT 4713	Net-centric Computing	3
COP 4610	Operating Systems Principles	3

Cybersecurity Electives – 9 credits

Students must complete three courses from the list of electives maintained by the School. These electives will be drawn from acceptable electives in the B.S. in Cybersecurity program or required/elective courses in the B.S in ComputerScience/InformationTechnology/ComputerEngineering program not used in the B.S. Cybersecurity program.

Interdisciplinary Courses – 9 credits

Nine additional credits must be taken outside the School of Computing and Information Sciences. These credits must normally be selected from the courses for a minor or certificate in another discipline. When there is no minor or certificate in the area of the student's interest, a set of courses can be created with the approval of advisers from SCIS and the other area of interest.

D. Provide a sequenced course of study for all majors, concentrations, or areas of emphasis

within the proposed program.

Freshman Year – 30 Credits
IDC 1000 – Computer Science for Everyone (3 credit)
MAC 1140 – Pre-calculus (3 credits)
UCC courses (18 credits)
General Electives (6 credits)

Sophomore Year – 30 credits
COP 2210 – Computer Programming I (4 credits)
STA 2xxx – Statistics (non-calculus) (3 credits)
COT 3100 – Discrete Structures (3 credits)
CDA 3103 – Fundamentals of Computer Systems (3 credits)
COP 3337 – Computer Programming II (3 credits)
UCC courses (14 credits)

Junior Year – 30 credits
ENC 3249 – Professional and Technical Writing for CS (3 credits)
COP 3530 – Data Structures (3 credits)
COP 4338 – Computer Programming III (3 credits)
CDA 4101 – Structured Computer Organization (3 credits)
CGS 3095 – Technology in the Global Arena (3 credits)
COP 4710 – Database (3 credits)
General Electives (12 credits)

Senior Year – 30 credits
COP 4713 – Net-centric Computing (3 credits)
CEN 4010 – Software Engineering (3 credits)
COP 4610 – Operating Systems Principles (3 credits)
Interdisciplinary group (9 credits)
General Electives (3 credits)
CS Electives (9 credits)

E. Provide a one- or two-sentence description of each required or elective course.

CDA 3103 Fundamentals of Computer Systems (3). Overview of computer systems organization. Data representation. Machine and assembly language programming. Prerequisites: COP 2210 or equivalent. This course will have additional fees.

CDA 4101 Structured Computer Organization (3). Covers the levels of organization in a computer: Design of memory, buses, ALU, CPU; design of microprogram. Covers virtual memory, I/O, multiple processes, CISC, RISC and parallel architectures. Prerequisites: MAD 2104, CDA 3103 and COP 3337. This course will have additional fees.

CEN 4010 Software Engineering I (3). Software Process Model, software analysis and specification, software design, testing. Prerequisites: CGS 3095, COP 3530, and COP 4710. Corequisite: CNT 4713. This course will have additional fees.

CEN 4021 Software Engineering II (3). Issues underlying the successful development of large scale software projects: Software Architectures; Software Planning and Management; Team Structures; Cost Estimation. Prerequisite: CEN 4010. This course will have additional fees.

CEN 4072 Fundamentals of Software Testing (3). Fundamentals of software testing. Topics include: test plan creation, test case generation, program inspections, specification-based and implementation-based testing, GUI testing, and testing tools. Prerequisite: COP 3530.

CEN 4083 Introduction to Cloud Computing (3). Topics include the concepts and principles of cloud computing and the techniques of using cloud systems and developing cloud applications. Prerequisites: CNT 4713 and CDA 4101 or permission of the instructor.

CGS 1920 Introduction to Computing (1). Overview of the computing field to students, research programs and career options.

CGS 3095 Technology in the Global Arena – *GL* (3). Legal, ethical, social impacts of computer technology on society, governance, quality of life: intellectual property, privacy, anonymity, professionalism, social identity in the U.S. and globally. Prerequisites: COP 2250 or COP 2210 and ENC 3213 or ENC 3249.

CNT 4406 Network Security and Cryptography (3). Symmetric and public key cryptography, IPSec, SSL, password management, firewalls, intrusion detection, wireless security, anonymizers, spam, phishing, malware and network attacks. Prerequisites: COP 4338 or CNT 4713.

CNT 4504 Advanced Network Management (3). Advanced principles of modern internetworking network design and implementation. Hands on experience with routers and switches and core Internet support protocols. Prerequisite: CNT 4513.

CNT 4713 Net-centric Computing (3). This course covers networking fundamentals, network security, network applications, mobile and wireless computing. The course focuses on network programming, including sockets and web programming concepts. Prerequisite: COP 4338.

COP 1000 Introduction to Computer Programming (3). Uses graphics and animation in a media programming environment to teach problem solving and programming concepts to students with no prior experience. May not be taken after COP 2210 or COP 2250.

COP 2210 Computer Programming I (4). A first course in computer science that uses a structured programming language to study programming and problem solving on the computer. Includes the design, construction and analysis of programs. Student participation in a closed instructional lab is required. This course will have additional fees.

COP 3337 Computer Programming II (3). An intermediate level course in Object Oriented programming. Topics include primitive types, control structures, strings arrays, objects and classes, data abstraction inheritance polymorphism and an introduction to data structures. Prerequisites: COP 2210 or EEL 2880. This course will have additional fees.

COP 3530 Data Structures (3). Basic concepts of data organization, running time of a program, abstract types, data structures including linked lists, nary trees, sets and graphs, internal sorting. Prerequisites: MAD 2104 and COP 3337. This course will have additional fees.

COP 4226 Advanced Windows Programming (3). Document and Dialog Based App, Message Passing, Printing, Drawing, GUI Design, Common Controls, Multithreaded Programming, Serialization, Database Connectivity, Runtime Libraries, Memory Management. Prerequisite: COP 3530. This course will have additional fees.

COP 4338 Computer Programming III (3). Programming in C and advanced programming in Unix environments, including multiprocessing and multithreading. Corequisite: COP 3530. This course will have additional fees.

COP 4520 Introduction to Parallel Computing (3). This course introduces the field of parallel computing. The students will be taught how to design efficient parallel programs and how to use parallel computing techniques to solve scientific problems. Prerequisites: COP 3530 and CDA 4101 or EEL 4709C.

COP 4534 Algorithm Techniques (3). Basic algorithm design, including greedy algorithms, divide-and-

conquer, dynamic programming, randomization, and backtracking. Graph, string, numerical, geometric, and optimization algorithms. Prerequisite: COP 3530.

COP 4555 Principles of Programming Languages (3). A comparative study of several programming languages and paradigms. Emphasis is given to design, evaluation and implementation. Programs are written in a few of the languages. Prerequisite: COP 3530. This course will have additional fees.

COP 4604 Advanced Unix Programming (3). Unix overview: files and directories, shell scripting and systems programming. Unix tools; Internals: file systems, process structure. Using the system call interface. Interprocess communication. Prerequisite: COP 4338. Corequisite: COP 4610. This course will have additional fees.

COP 4610 Operating Systems Principles (3). Operating systems design principles and implementation techniques. Address spaces, system call interface, process/threads, interprocess communication, deadlock, scheduling, memory, virtual memory, I/O, file systems. Prerequisites: CDA 4101 and COP 4338. This course will have additional fees.

COP 4710 Database Management (3). Logical aspects of databases including Relational, Entity-Relationship, and Object-Oriented data models, database design, SQL, relational algebra, tuple calculus, domain calculus, and physical database organization. Prerequisite: COP 3337. Corequisite: COP 3530. This course will have additional fees.

COP 4722 Survey of Database Systems (3). Design and management of enterprise systems; concurrency techniques; distributed, object-oriented, spatial, and multimedia databases; databases integration; datawarehousing and datamining; OLAP; XML interchange. Prerequisites: COP 4710 or COP 4703.

COT 3xxx Discrete Structures (3). Align mathematical and computational concepts by applying computing to propositional logic, sets, functions, relations, induction, recursion, combinatorics, Boolean algebra, graphs, and trees. Prerequisites: MAC 1105 and (COP 2210 or COP 2250).

COT 3541 Logic for Computer Science (3). An introduction to the logical concepts and computational aspects of propositional and predicate logic, as well as to concepts and techniques underlying logic programming, in particular, the computer language Prolog. Prerequisites: COP 3337 and MAD 2104. This course will have additional fees.

COT 4521 Introduction to Computational Geometry (3). Study of efficient algorithms to solve geometric problems. Topics covered include convex hulls, Voronoi diagrams, Delaunay triangulations, arrangements, search and intersection, and motion planning. Prerequisite: COP 3530.

CTS 4408 Database Administration (3). Client-server architecture; planning, installation, server configuration; user management; performance optimization; backup, restoration; security configuration; replication management; administrative tasks. Prerequisites: COP 4703 or COP 4710.

ENC 3249 Professional and Technical Writing for Computing (3). Introduces students to the expectations of written and verbal communication in the computer science profession; explores the ways in which technology and media help shape professional communication. Prerequisites: ENC 1102 or equivalent or ENC 2304.

IDC 1000 Computer Science for Everyone (3). Introduction to the breadth and excitement of computing, including its social context, computing principles, and relevance to all disciplines.

MAC 1140 PreCalculus Algebra (3). Covers polynomial, rational, exponential and logarithmic functions: zeros of polynomials; conic sections; determinant and Cramer's rule; sequences and series; induction; binomial theorem. Students cannot receive credits for both this course and MAC 1147. Prerequisites: MAC 1105 or appropriate score on placement exam for students with no prior college-level coursework in mathematics.

MAD 2104 Discrete Mathematics (3). Sets, functions, relations, permutations, and combinations, propositional logic, matrix algebra, graphs and trees, Boolean algebra, switching circuits. Prerequisites: MAC 1105 or appropriate score on placement exam for students with no prior college-level coursework in mathematics.

STA 2023 Statistics for Business and Economics (3). Starting with an introduction to probability, the course 192 College of Arts Sciences and Education Undergraduate Catalog 2016-2017 provides an introduction to statistical techniques used in management science. It includes descriptive statistics, probability distributions, estimation and testing of hypotheses. Subsequent credit for STA 2122 or STA 3111 will not be granted. Prerequisite: High school algebra.

STA 2122 Statistics for Behavioral and Social Sciences I (3). A course in descriptive and inferential statistics. Topics include: probability distribution of discrete and continuous random variables. Sampling distributions. Large sample estimation and hypothesis testing for means and proportions. Prerequisite: High school algebra.

STA 3111 Statistics I (3). Descriptive statistics. Basic probability rules. Discrete and continuous probability distributions. Point and interval estimation, hypothesis testing based on a single sample. Comparison of two proportions using independent and large samples. Subsequent credit for STA 2122 or STA 2023 will not be granted. Prerequisite: High school algebra.

F. For degree programs in the science and technology disciplines, discuss how industry-driven competencies were identified and incorporated into the curriculum and indicate whether any industry advisory council exists to provide input for curriculum development and student assessment.

This program is a subset of an existing Computer Science degree program. The School's existing Industry Advisory Board has been consulted on December 2, 2016, at the last board meeting, and the board provided very positive feedback. Past activities of the Industry Advisory Board included curriculum review and feedback regarding student projects and student preparation for employment.

G. For all programs, list the specialized accreditation agencies and learned societies that would be concerned with the proposed program. Will the university seek accreditation for the program if it is available? If not, why? Provide a brief timeline for seeking accreditation, if appropriate.

Pursuing this option will allow us to keep the B.S. in Computer Science as an ABET Accredited program; the B.A. in Computer Science will not be ABET accredited, because of the loss of the Calculus requirements. This will be identical to the situation at FSU and University of Rochester, and further, many B.S. in Computer Science programs also are not ABET-accredited, because universities have determined that pursuing ABET accreditation limits options for students. Other universities that do not have an accredited CS degree include: University of Florida, Stanford, Princeton, Berkeley (BA), Carnegie-Mellon, Washington, Maryland, Texas, and Massachusetts.

H. For doctoral programs, list the accreditation agencies and learned societies that would be concerned with corresponding bachelor's or master's programs associated with the proposed program. Are the programs accredited? If not, why?

N/A

I. Briefly describe the anticipated delivery system for the proposed program (e.g., traditional delivery on main campus; traditional delivery at branch campuses or centers; or nontraditional delivery such as distance or distributed learning, self-paced instruction, or external degree programs). If the proposed delivery system will require specialized services or greater than normal financial support, include projected costs in Table 2 in

Appendix A. Provide a narrative describing the feasibility of delivering the proposed program through collaboration with other universities, both public and private. Cite specific queries made of other institutions with respect to shared courses, distance/distributed learning technologies, and joint-use facilities for research or internships.

This proposal is for an on-campus program which would be fully available to students immediately on approval, but in keeping with the university strategic plan, the School of Computing and Information Sciences has added online options to its other degree programs, such as Information Technology, which will be offered fully online starting Summer 2017, and there are no barriers to doing the same for the B.A. in Computer Science. However, Computer Science has few online courses currently, so there is no current timeline for online options.

IX. Faculty Participation

A. Use Table 4 in Appendix A to identify existing and anticipated full-time (not visiting or adjunct) faculty who will participate in the proposed program through Year 5. Include (a) faculty code associated with the source of funding for the position; (b) name; (c) highest degree held; (d) academic discipline or specialization; (e) contract status (tenure, tenure-earning, or multi-year annual [MYA]); (f) contract length in months; and (g) percent of annual effort that will be directed toward the proposed program (instruction, advising, supervising internships and practica, and supervising thesis or dissertation hours).

New faculty, initially four non-tenure track and two Assistant Professors will be needed for Year #1. Non-tenure track faculty normally have at least a M.S. degree in discipline (Computer Science or related), and Assistant Professors must have a Ph.D. in discipline. All faculty will be on nine-month contracts, but funding is budgeted for non-tenure track faculty to teach in the summer, so as to provide adequate course selection for timely graduation. By year #5, there will be two additional non-tenure track faculty, and two additional Assistant Professors, each hired in alternate years. All faculty will be 100% dedicated to the program, though Assistant Professors have a significant research assignment appropriate for a Research R1 institution.

B. Use Table 2 in Appendix A to display the costs and associated funding resources for existing and anticipated full-time faculty (as identified in Table 4 in Appendix A). Costs for visiting and adjunct faculty should be included in the category of Other Personnel Services (OPS). Provide a narrative summarizing projected costs and funding sources.

The funding source is Information Technology Performance Funding. Instructors are budgeted at $82,500 plus benefits, for twelve months to account for summer teaching. Assistant Professors are budgeted at $100,000 plus benefits. Adjuncts are budgeted at roughly $3,600 per section.

C. Provide in the appendices the abbreviated curriculum vitae (CV) for each existing faculty member (do not include information for visiting or adjunct faculty).

Appendix D provides existing Computer Science faculty. We will need new faculty to teach the additional sections, but obviously students will enroll in all sections, so will be taught by both new and existing faculty. Note that some faculty listed are teaching primarily other degree programs in SCIS or service courses, and not necessarily in the B.S. in Computer Science.

D. Provide evidence that the academic unit(s) associated with this new degree have been productive in teaching, research, and service. Such evidence may include trends over time for average course load, FTE productivity, student HC in major or service courses, degrees granted, external funding attracted, as well as qualitative indicators of excellence.

School highlights include #7 ranking in ASEE for computer degrees produced, and #1 ranking by FLBOG for Information Technology Performance. Research highlights include #39 ranking by NSF for research

expenditures, faculty awards that include 3 AAAS Fellows, 2 IEEE Fellows, 1 ACM Fellow and 4 ACM Distinguished Members, and 1 member of NAI. Additional raw data follows in Tables IX.D.1 to IX.D.6 (data sources for tables: AIM's accountability.fiu.edu website).

	Fall 11	Fall 12	Fall 13	Fall 14	Fall 15
Lower Division	238	284	389	418	360
Upper Division	965	1049	1237	1340	1392
Total Undergraduate	1203	1333	1626	1758	1752
Masters	97	105	127	157	168
Ph.D.	67	75	79	68	65
Total Graduate	164	180	206	225	233

Table IX.D.1 SCIS Headcount; Fall 15 undergraduate headcount does not include "exploratory CS"

	11-12	12-13	13-14	14-15	15-16
Undergraduate FTE	629	677	757	873	966
Graduate FTE	97	110	118	127	119
Total FTE	726	784	875	1000	1085

Table IX.D.2 SCIS FTE Generated

Degrees Awarded	11-12	12-13	13-14	14-15	15-16
Bachelors	196	188	199	255	321
Masters	46	49	71	82	92
Ph.D.	5	9	11	15	8

Table IX.D.3 SCIS Degrees Awarded

	Direct Awards	Foundation & Auxiliary	Total
2010-2011	$ 4,334,155	$337,807	*$ 4,671,962*
2011-2012	$ 4,871,406	$477,003	*$ 5,348,409*
2012-2013	$ 6,223,330	$471,609	*$ 6,694,939*
2013-2014	$ 5,067,596	$662,901	*$ 5,730,496*
2014-2015	$ 4,086,503	$798,874	*$ 4,885,377*
2015-2016	$ 3,704,676	$512,250	*$ 4,216,925*

Table IX.D.4 Funded Research Awards, direct to SCIS

	07-08	08-09	09-10	10-11	11-12	12-13	13-14	14-15	15-16
Journal Papers	36	58	51	44	31	48	58	60	55
Proceedings Papers	104	85	64	95	75	118	131	121	96
Books	4	5	5	7	8	9	8	5	8
Book Chapters	6	10	7	11	2	0	13	13	13
Total	150	158	127	157	116	175	210	199	172

Table IX.D.5 Publications

RATING	Fall 2011	Fall 2012	Fall 2013	Fall 2014	Fall 2015
EXCELLENT	58.5%	62.3%	62.3%	62.5%	65.3%
VERY GOOD	21.6%	18.8%	20.2%	21.5%	18.9%
GOOD	11.3%	10.2%	10.1%	10.3%	9.4%
FAIR	4.9%	4.6%	4.7%	3.4%	3.5%
POOR	2.4%	2.7%	1.4%	1.3%	1.3%
(note: totals add to less than 100% due to blank forms)					

Table IX.D.6 SCIS Teaching Evaluations (on campus sections)

X. Non-Faculty Resources

A. Describe library resources currently available to implement and/or sustain the proposed program through Year 5. Provide the total number of volumes and serials available in this discipline and related fields. List major journals that are available to the university's students. Include a signed statement from the Library Director that this subsection and subsection B have been reviewed and approved.

Library Staffing

The School of Computing & Information Sciences (SCIS) is served primarily by the Green Library and a satellite facility located at FIU's Engineering Center, called the Engineering Library Services (ELS). ELS was opened at the College of Engineering & Computing (CEC) Engineering Center in 2001. Administration of the ELS is under the Green Library Access Services Department, with responsibility for reference, research consultation, library instruction and liaison services under the Green Library Information & Research Services Department. Services and materials in the ELS area include a common study room, three presentation/group study rooms, print reference and course reserve materials, delivery of print interlibrary/intercampus loan items, and research consultations by appointment. More information and current hours are available at https://library.fiu.edu/about-us/els/els-services.

Users can access electronic databases, digital resources, and e-books 24 hours a day, 7 days a week through the user-authentication proxy server, EZ-Proxy. The majority of materials that professors place on course reserves are also available electronically to students with an Internet connection through EZ-Proxy. A portal of resources specific to Computer Science research is accessible from the Research Tools tab on the FIU Libraries homepage and includes discipline-specific and recommended databases. This portal is maintained by the Science and Engineering Librarian and is updated regularly.

Journals. The FIU Libraries have access to articles from over 75,000 online journals through various vendors. Online journal content can be accessed from the library catalog or through the E-journal Portal, which utilizes the SerialsSolutions platform. Although many of the online journals are available cover-to-cover, some titles may only have selective content available through aggregator databases. The library retains print subscriptions to titles that are either unavailable online or for which the cost for conversion to online is prohibitive.

The FIU Libraries have cover-to-cover subscriptions to titles in the following electronic journal packages of importance to computer science: the Association for Computing Machinery, IEEE/IET Electronic Library, Wiley-Blackwell, Elsevier ScienceDirect, Springer, INFORMS: Institute for Operations Research and the Management Sciences, and Emerald Press. Additionally, the E-Journal Portal reports the following subject areas and journal counts:

- Computer Science (1134)
- Information Technology (171)
- Electrical Engineering (933)

- Telecommunications (468)
- Applied Mathematics (155)
- Operations Research (140)
- Engineering - General (366)
- Technology - General (427)
- Sciences - General (745)

Monographs. The library's approval plan gives broad subject coverage across the disciplines studied at FIU. For all Science and Engineering subjects, the approval plan covers university press titles. The library currently has an e-preferred plan for delivery of titles in the sciences and engineering; for this plan, the electronic book is purchased instead of a print book if the e-book is published within 8 weeks of the print run. This reduces the workflow of cataloging, shelfing, and transporting print materials and also allows broader access to students regardless of their location and time schedule.

The FIU Libraries have been increasing the number of contracts with electronic book providers for the past several years, especially in the fields of Science, Engineering and Technology. The library currently has access to over 230,000 online books, including general titles, reference resources, and specialized collections. Electronic collections include titles by Elsevier, Emerald, Springer, Wiley, and Gale as well as aggregate collections from EBSCO, EBL, and ebrary. The vast majority of FIU's electronic book collections have been published within the last 15 years. Among the online book holdings are: *The McGraw-Hill Encyclopedia of Science & Technology*, *CRC EngNetBase*, Springer's *Lecture Notes in Computer Science* and *Lecture Notes in Mathematics*, as well as an annual subscription to the Springer e-book collections in Engineering and Computer Sciences. A keyword search for "Computer Science" shows over 13,000 e-book titles currently available.

In 2014 the library also began demand-driven acquisitions programs through several vendors. These programs allow the library to provide catalog records and access to a large number of electronic books, but a purchase of the book is initiated only if it is utilized by the library patrons. To date more over 35,000 titles have been made accessible through the demand-driven program, with approximately 3,000 titles having received sufficient use to warrant a purchase.

Reference materials: Computer Science reference materials are primarily purchased in online format, but may be physically housed at the Green Library or ELS if no electronic format is offered.

Conference Proceedings. FIU's access to the following online series includes conference proceedings: *ACM Digital Library, IEEE/IET Electronic Library*, and Springer's *Lecture Notes in Computer Science*, including the subseries *Lecture Notes in Artificial Intelligence* and *Lecture Notes in Bioinformatics*.

Online Databases. The library's collections of databases and other online resources, about 500 in number, adequately cover the needs of computer science. Subscribed databases include: *ACM Digital Library* (includes *Computing Reviews* and the *ACM Guide to Computing Literature*), *Computer and Information Systems Abstracts*, *Gale Computer Database, IEEE/IET Electronic Library, AccessScience, Applied Science and Technology*, *Current Contents Connect, ProQuest SciTech Collection*, *INSPEC*, *NTIS, Electronics and Communications Abstracts*, *Engineering Index* (Compendex), *EI Village*, *MathSciNet*, *ANTE: Abstracts in New Technologies and Engineering*, and *Science Citation Index*.

Streaming Video Resources. The FIU Libraries have an expanding collection of streaming videos, which can be accessed on or off campus, available in a variety of subject areas Approximately 25,000 titles are currently available. The primary streaming services are FMG *Video on Demand Academic Master Collection* and assorted collections from Alexander Street Press. Currently there are approximately 42 videos listed for Computer Science. The library also has a demand-driven acquisitions programs for streaming videos through Kanopy. Similar to the e-book demand driven programs, this service allows the library to provide catalog records and access to over 20,000 videos, but a license for the video is initiated only if utilized by the library patrons.

Interlibrary (ILL), Intercampus (ICL) Loan Services and UBorrow: The FIU Libraries have a daily courier service that provides Intercampus Loan opportunities between the various libraries. Intercampus delivery is available for print and audiovisual materials, including books received from other libraries through interlibrary loan. Materials may be shipped to campus pick-up points at the Green Library, Hubert Library, Engineering Library Services Center, or the FIU @ I-75 Campus. Books requested through Intercampus Loan are generally received within 24-48 hours of the request. Articles in electronic format are delivered to patrons' desktops in PDF format.

B. Describe additional library resources that are needed to implement and/or sustain the program through Year 5. Include projected costs of additional library resources in Table 2 in Appendix A. Please include the signature of the Library Director in Appendix B.

No additional library resources are needed, as the holdings already adequately service the current BS in Computer Science.

C. Describe classroom, teaching laboratory, research laboratory, office, and other types of space that are necessary and currently available to implement the proposed program through Year 5.

The SCIS offices are housed in the Engineering and Computer Science (ECS) and PG6 Tech Station buildings of the Modesto A. Maidique Campus. Both ECS and PG6 buildings house the over 40 faculty and 20 staff members of the School. The location of SCIS faculty offices in close proximity to classrooms and teaching and research labs, and co-location with SCIS technical and office support groups has greatly enhanced delivery of the SCIS mission. There are three primary offices of the school: Undergraduate Office (ECS 3rd Floor East Wing), Graduate Office (ECS 3rd Floor West Wing), and the Undergraduate Student Advising Center (PG6 1st floor). The location, as well as the functionality and aesthetics of faculty offices, has been a significant contributor to the ability of the SCIS to attract high caliber faculty, to collegiality within the SCIS, and to high morale of the SCIS faculty. The SCIS Technology group's offices are on the 2nd floor in close proximity to the research and open labs they service.

The SCIS Director's office is located in Graduate office area, which is in the same wing as research faculty and the Graduate Program Director. The Associate Director's office is located in the Undergraduate office area, and is in the same wing as the instructional faculty. The Associate Director also serves as the School's Undergraduate Program Director. Both offices have secretarial staff assigned to assist with each respective program, as well as, staff to manage business operations. The Undergraduate Advising Center houses the Assistant Director for Advising and the advising staff. All offices are well accommodated with desk, chairs, desktop computer, storage cabinet and whiteboard. All offices have an IP-based phone, a network connection and WiFi access. The typical faculty/staff office will have one or two 22 or 24" displays, a Dell Precision 1700 with Intel i7-4770, 16GB ram, 256 GB SSD, Nvidia K600 1GB video card or a similarly configured Intel based Mac system unless a different specification is needed to meet a specialized research or instructional requirement. Hardware and software are maintained by SCIS Technology Group are regularly updated based on a refresh cycle established by the School. Teaching assistants may reserve meeting rooms in ECS or PG6 for one-on-one or group mentoring sessions.

All SCIS faculty offices are located on the 2nd and 3rd floors of the Engineering and Computer Science building (ECS) on the Modesto A. Maidique main campus. The strategic location of SCIS faculty and administrative offices on the main campus of the university, in proximity to other academic units such as College of Medicine, and Departments of Physics, Biological Sciences, and Mathematics and Statistics, has been a principal contributor of the ability of SCIS to further its goal as an enabler of multidisciplinary education and research in FIU. Delivery of service courses, in support of another of its mission components, and the ability to promote vibrant student organizations and faculty mentorship of SCIS students is immeasurably facilitated by the strategic location of SCIS offices.

The School of Computing and Information Sciences (SCIS) operates an instructional classroom lab known as the Ilab. The Ilab, located in ECS 141, consists of (48) Dell Precision T1600, Dual Core i3-2100 (2nd gen)

3.1 ghz, 1gb nVidia Quadro 600, 8gb, 250gb hdd, 16x dvd rw, P2210 display. These systems run Windows 7 and a variety of software development tools like Netbeans and Eclipse. Instructors can use a wired workstation in the room or connect their laptops to the presentation console that controls the room's computer display projectors. In PG6 Tech Station the school operates an Advanced Systems Training Lab. The lab consists 49 Dell workstations configured with an Intel Core i7-4790, 16 GB DDR3, Nvidia Quadro K620 2GB and 22" HD display and 256 GB Solid State Drive. Instructors can record lectures in both training labs, edit and publish class videos or stream the live lectures using the systems live streaming feature. Students access videos via the web or using native software for Andriod or iOS.

The SCIS co-operates seven instructional media classrooms with University Technology Service, Media Services group in the ECS building first floor, east wing. Each classroom is equipped with a networked computer, computer data projector, and projection screen. Faculty can use a laptop to connect to the projector via a dedicated video cable. Similarly, the School utilizes four multi-media classrooms of varying size (35-175 seats) in PG6 Tech Stations. The Tech Station classrooms are reserved for STEM related discipline use.

Adequacy: The SCIS Director for Technology is responsible for the operation and maintenance of the computing equipment. The SCIS Associate Director evaluates the classroom equipment and lab environment provided to determine educational fitness for purpose. The SCIS Director for Technology, in consultation with the SCIS Infrastructure committee, SCIS Director and Associate Director purchases classroom and lab equipment. The SCIS Technology Group receives faculty requests to install software in the classroom and/or lab to support curriculum needs. SCIS Faculty and students report technical problems to the Technology Group staff via an email-based trouble ticket system. The SCIS Director for Technology reviews all service requests, evaluates service performance, and makes periodic reports to the SCIS Director and Associate Director on any issues concerning classroom operation.

The School of Computing and Information Sciences operates six laboratories and numerous study rooms for use by its undergraduates in Computer Science and Information Technology programs. Each lab computer contains a standard Windows 7 image that contains the necessary instructional support software.

ECS 241 - John C. Comfort Collabrium – Open Lab hours: 24 hours, 7 days a week.

- (48) Dell Precision T1700, 8 Core i7-3770 3.4ghz, 16gb ram, 256gb ssd hdd, nVidia Quardo 600, 1gb to desktop, 16x dvd rw single 24in display

ECS 237 - Advanced Undergraduate Lab – Open Lab hours: 24 hours, 7 days a week.

- (11) Apple iMac 27, Quad Core i5 3.2ghz, 16gb ram, 256gb ssd hd, NVIDIA GeForce GT 755M
- (2) Apple iMac 27, Quad Core i5 2.9ghz, 16gb ram, 256gb ssd, NVIDIA GeForce GTX 600M
- (11) Dell Precision T1700, QuadCore i7-4770 3.4ghz, 16gb ram, 256gb ssd hdd, nVidia Quardo 600, 1gb to desktop, 16x dvd rw single 24in display or dual 22in display
- (2) Samsung 40in displays for group collaboration
- (2) Standing, height adjustable desks with single 24" displays for collaboration

ECS 235: Seminar Room – Available for reservation: 9am – 5pm.

- This multimedia enabled lecture room provides up to 25 seats for student groups to use to solve in class assignments. The room contains lecture recording and streaming capabilities via Sonic Foundry MediaSite.

ECS 237a: Tutorial Lab – Open lab time vary based on T/A and student group tutoring schedule.

- (4) Apple iMac 27, Quad Core i5 2.9ghz, 16gb ram, 256gb ssd, NVIDIA GeForce GTX 600M
- This room also contains data projection and flexible seating for instructors and students to hold ad-hoc tutoring.

PG6 105: The Advanced Systems Training Lab – Closed lab available during scheduled course times.

- 49 Dell workstations configured with an Intel Core i7-4790, 16 GB DDR3, Nvidia Quadro K620 2GB and 22" HD display and 256 GB Solid State Drive.

- Students use these systems to complete in-class assignments and receive state-of-the-art systems training.

PG6 106: The Software Design lab -- Closed lab available during scheduled course times.

- The lab provides 24 Dell workstations system equipped as above with upgraded 29" HD wide screen display, ideal for software development requirements. The WiFi supported open meeting areas for students provides a convenient place to complete course work or have a group meeting.

PG6 102: IT Hardware and Services lab -- Closed lab available during scheduled course times.

- The lab provides technology students hand-on skills training on a variety of computing equipment/tools to integrate hardware and software systems. Students working in pairs using specialized hardware tools to manipulate motherboards, power supplies, interface cards, RAM, hard drives and other computing components. The lab has 3D printing capabilities to manufacture cases and other parts needed. At each of the 13 work benches there is a Dell workstation (as specified in PG6 105) to use for reference during a lab activity. The lab also contains Cisco routers, switches and KVMs necessary to manage WANs and other network systems which can support ad-hoc networking instruction.

PG6 101 Suite: Team Rooms -- Available for reservation by students at the Advising office

- The five Team and conference room provides collaboration support for courses where student teams are developing large projects and provide a relaxed environment for peer study group sessions. Each room contains a 70" HD LCD Display which uses a Crestron system to wirelessly and simultaneously display the output of up to four devices, that are running either Windows, Mac OS, Android or iOS.

The SCIS has dedicated servers for student files and/or computing service. Each student is given a default file storage quota of 25 GB of file storage space which can be increased based on instructor feedback. Available for instruction is a virtual node computing system hosted on multi-core servers, utilizing VMware, Xen and Virtual box for virtualization. Students can login remotely into several Linux and Solaris file and computer servers. The lab provides students tables to utilize their own laptops, large LCD displays where students can connect their laptops to collaborate with others, and connect to the campus network via campus WiFi services.

University Technology Services (UTS) – General Computing Labs

There are 10 general computing labs open to all students of the university and managed by UTS. These labs are located available 8am – 11pm, Monday through Thursday, 8am – 6pm on Friday, 9am to 6 pm on Saturday. The labs are located on the Modesto Maidique Campus, Engineering Center and Biscayne Bay Campus. Each lab contains at least 20 Intel or AMD based desktops computers running Windows and/or Mac OS.

Internet access is available from all FIU student residence halls, off-campus access is available via private ISP to Linux/Unix student file systems and computer servers 24/7 via ssh, sftp or scp.

In addition, students may receive free software to assist them with their instructional and home computing environment. Via the Microsoft DreamSpark students receive Visual Studio.NET, MS SQL Server, IIS Server and other OS/Desktop products. Microsoft Office Suite is available from FIU's Microsoft Campus Office agreement. McAfee Antivirus software is available to all students to help students maintain a safe personal computing environment.

D. Describe additional classroom, teaching laboratory, research laboratory, office, and other space needed to implement and/or maintain the proposed program through Year 5. Include any projected Instruction and Research (I&R) costs of additional space in Table 2 in Appendix A. Do not include costs for new construction because that information should be provided in response to X (E) below.

Classroom space is centrally allocated by the university based on the schedule of classes. An additional laboratory space renovation plan has been approved for 2017 implementation which will improve laboratory availability for the new degree.

E. If a new capital expenditure for instructional or research space is required, indicate where this item appears on the university's fixed capital outlay priority list. Table 2 in Appendix A includes only Instruction and Research (I&R) costs. If non-I&R costs, such as indirect costs affecting libraries and student services, are expected to increase as a result of the program, describe and estimate those expenses in narrative form below. It is expected that high enrollment programs in particular would necessitate increased costs in non-I&R activities.

No additional capital expenditures are included in this degree proposal.

F. Describe specialized equipment that is currently available to implement the proposed program through Year 5. Focus primarily on instructional and research requirements.

Please see answer to part C above.

G. Describe additional specialized equipment that will be needed to implement and/or sustain the proposed program through Year 5. Include projected costs of additional equipment in Table 2 in Appendix A.

The SCIS Technology Group regularly updates equipment based on a refresh cycle established by the School. No additional specialized equipment expenditures are included in this degree proposal.

H. Describe any additional special categories of resources needed to implement the program through Year 5 (access to proprietary research facilities, specialized services, extended travel, etc.). Include projected costs of special resources in Table 2 in Appendix A.

N/A

I. Describe fellowships, scholarships, and graduate assistantships to be allocated to the proposed program through Year 5. Include the projected costs in Table 2 in Appendix A.

N/A

J. Describe currently available sites for internship and practicum experiences, if appropriate to the program. Describe plans to seek additional sites in Years 1 through 5.

FIU has a longstanding partnership with Ultimate Software, a Fortune 500 company headquartered in Weston, FL, which has hired over 100 of our students as interns, and subsequently as fulltime employees. Other companies with which the School of Computing and Information Sciences has networked in the past year include IBM, Intel, Chevron, Microsoft, State Farm, Google, Uber, Progressive, Amadeus, Emerson, Citrix, Royal Caribbean Cruise Lines, Carnival Cruise Lines and Mount Sinai Hospital. Two of these companies have already started a process to form a sustained internship program with the vision of each hiring ten interns per year, and to provide SCIS with sponsorship in the form of 1:1 matching scholarships for FIU SCIS students.

APPENDICES

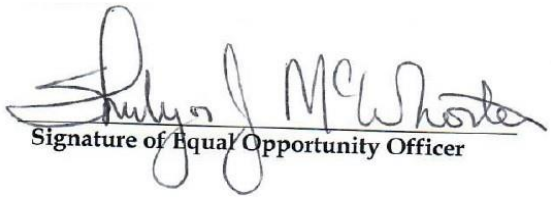
APPENDIX A: Budget Tables
APPENDIX B: EEO and Library Signatures
APPENDIX C: Graduates of the CS Program
APPENDIX D: Faculty Bios

APPENDIX A

See Attached Excel file

APPENDIX B-1

Please include the signature of the Equal Opportunity Officer.

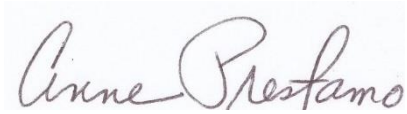


Date: January 12, 2017

This appendix was created to facilitate the collection of signatures in support of the proposal. Signatures in this section illustrate that the Equal Opportunity Officer has reviewed section II.E of the proposal.

APPENDIX B-2

Please include the signature of the Library Director.



Signature of the Library Director **Date: January 16, 2017**

This appendix was created to facilitate the collection of signatures in support of the proposal. Signatures in this section illustrate that the Library Director has reviewed sections X.A and X.B.

APPENDIX C – Recent FIU SCIS Graduates (source LinkedIn)

Name	Year	Employment
Eduardo Guerra	2016	Software Engineer at Ultimate Software
Darie Dorlus	2016	Founder, FastKoin.com
Emmanuel Vinas	2016	Application Developer 2 at Edgy Soul Entertainment
Rodolfo Viant	2016	Software Engineer at Bullet Line
Leonardo Martin	2016	Intern - TechStar at Ultimate Software
Alejandro Henao	2016	Software Engineer at Ultimate Software
Daniel Alvarez	2016	Software Engineer at Emphasys Software
Shadeh Ferris-Francis	2016	Software Engineering Intern in Systems Engineering at NASA Jet Propulsion Laboratory
Wayne Curling	2016	Contract Software Engineer Asc at Lockheed Martin
Miguel Conde	2016	Software Engineer I at Emerson
Rachelle Tobkes	2016	Software Engineer at Citrix
Johann Henao	2016	Test Engineer at Amadeus IT Group
Jorge Perez	2016	Backend Developer at StartJobs.net
Andres Villa	2016	Java Developer at IBM Watson
Yordan Alvarez	2015	System Analyst at World Fuel Services
Robert Law	2015	Software Development Engineer in Test at Revature
Rodney Sanchez	2015	Web Developer/Programmer at Costa Farms, LLC
Rogelio Alonso	2015	Software Programmer at FedEx Express
Ryan Del Rosario	2015	Co Founder at Missing Brick Studios
Steve Noel	2015	Software Developer at Florida International University: Applied Research Center

Name	Year	Employment
Valeria Lopez	2015	Software Engineer at IBM
Will Rodriguez	2015	Software Test Engineer at Ultimate Software
Willy G Gomez	2015	System Analyst / Programmer II at 11th Judicial Circuit of Florida
Yamel Peraza	2015	Database Developer at Bayview Asset Management, LLC
Matthew Santiago	2015	Programmer, Intermediate at University of Miami, Miller School of Medicine
Michael Machin	2015	Project Member of Collaborative Platform at Florida International University
Pedro Montero	2015	Software Testing Engineer at Ultimate Software
Peter Reidy	2015	Software Development Engineer at Amazon
Raul Garay	2015	Programmer Analyst at NextEra Energy, Inc.
Rene Alfonso	2015	Software Engineer Contractor at Florida International University
Ricardo Dominguez	2015	Freelance Web/Software Developer at Freelance Software Developer
Richard Lopez	2015	Software Engineer at Neogen Corporation
Kenneth Kon	2015	Software Developer at Emphasys Software
Luis Castillo	2015	iOS Mobile Software Engineer at Attain
Luis Miguel Carrillo	2015	Software Engineer at MiBodega
Mandiel Lastra	2015	Information Security Analyst at Florida Power & Light
Marc-Antoine Roger	2015	Software Engineer at Motorola Solutions
Maria Presa Reyes	2015	Graduate Research Assistant at Florida International University
Marlon Cardero	2015	Software Engineer at Royal Caribbean Cruises, Ltd.
Matthew Saunders	2015	Software Engineer at Microsoft

Name	Year	Employment
Jorge Travieso	2015	R&D Engineer at IPsoft
Joseph Gonzalez	2015	Software Developer I at Emphasys Software
Juan Ria–o	2015	Systems Administrator at Interactive Data Intelligence
Juan Machado	2015	Programmer at Miami-Dade County Public Schools
Juan Carlos Correa	2015	Software Engineer at FIS
Filip Panovski	2015	Software Developer at Vectron Systems AG
Francois D'Ugard	2015	Software Engineer at IBM
Frank Hernandez	2015	Senior Software Engineer at Citrix
Frank Vincench	2015	Software Developer at Emphasys Software
Jacek Kopczynski	2015	Software Engineer at Mindtree
Jeffrey Carman	2015	Junior Developer at Data on Acid, LLC
Crystal Rivera	2015	Tech Star at Ultimate Software
Dalaidis Hidalgo	2015	Software Developer at Mi9 Retail
Daniel Gonzalez	2015	Associate Software Developer at iPipeline
David Baez	2015	iOS Developer at Televisa
David Vizcaino	2015	Software Development Engineer at Amazon
David Romero	2015	Associate Software Engineer at IBM
Dayan Yamin	2015	Software Engineer at Audionamix
Dennys Orozco	2015	Software Test Engineer at Ultimate Software
Erico Oyarzun	2015	Jr. Java Developer R&D at Jagged Peak
Adam Merille	2015	Web Developer at BrightGauge Software
Alfredo Zellek	2015	Software Engineering Intern at Ultimate Software

Name	Year	Employment
Anais Hernandez	2015	Software Engineer at Ultimate Software
Andres Ruggiero	2015	Business Intelligence Developer at Florida International University
Aqib Shah	2015	Software Engineer at Moocho
Ariel Diaz	2015	Software Engineer at Ultimate Software
Artiom Tiurin	2015	JDA Support/Developer at KLX Aerospace Solutions
Carlos Ruiz	2015	Front End Developer at BOXYCHARM
Yoel Nunez	2014	Software Engineer - MobileFirst Platform Customer Oriented Research & Development (CORD) at IBM
Steven Sanabria	2014	IT Specialist at U.S. Census Bureau
William Marquez	2014	Application Developer II at Florida International University
Maurice Pruna	2014	System Analyst at State Farm
Maylem Gonzalez	2014	Jr. Data Scientist at Morelity
Musa Ahmed	2014	OpenStack Cloud Staff Software Engineer at IBM
Ricardo J. Martinez	2014	Software Engineer at Entic LLC
Karina Harfouche Abraham	2014	Software Engineer Asc at Lockheed Martin
Lazaro Herrera	2014	Senior Software Engineer / CTO at Bitstop.co
Leandro Calderin	2014	Java Engineer at Royal Caribbean Cruises, Ltd.
Lewis Liu	2014	Software Engineer at Harris Corporation GCS
Lorenzo Castillo	2014	Software Engineer at Amazon
Lorenzo Alexis Sanchez	2014	Software Developer at 71 lbs - Free, Fast & Automatic Shipping Refunds
Jonathan	2014	Systems Integration Engineer at CareCloud

Name	Year	Employment
Santiago		
Jonathan Sanchez	2014	Embedded Software Engineer at Lockheed Martin
Jose Astudillo	2014	Software Developer I at Emphasys Software
Juan Gonzalez-Llanos	2014	Front End / Back End Web Developer at Goverlan, Inc
Fernando Dos Santos	2014	Software Engineer at Royal Caribbean International
Guido Ruiz	2014	Research Assistant at Florida International University
Henry D Muniz Romero	2014	Software Engineer at Ultimate Software
Javier Carmona	2014	Software Engineer / Co-Founder at Addigy Technology
Jerry Flores	2014	IT Core Developer (Intergate) at TracFone Wireless
Christopher Kerrutt	2014	Software Engineer Asc at Lockheed Martin
Elias Eskenazi	2014	System Analyst at Midacom Corp.
Emmanuel Infante	2014	Systems Engineer at Ultimate Software
Enio Pena Navarro	2014	Process Programmer at Titan America
Eric Weiterman	2014	Software Engineer at IBM
Erik Edrosa	2014	Junior Developer at Farelogix
Yaneli Fernandez Sosa	2013	Software Engineer at FirstService Residential Florida
Santiago Pintos	2013	Software Developer at GoToItSolutions
Santiago Fuertes	2013	EDI Encounters Data Development at Beacon Health Options
Sebastian Zanlongo	2013	DOE Fellow, Department of Energy Student Research Assistant, Computer Science at Florida International University: Applied Research Center

Name	Year	Employment
Steven Berlanga	2013	Software Developer at Ultimate Software
Michael Weschler	2013	Associate Software Engineer, UI at Blizzard Entertainment
Michael Montague	2013	Associate Software Developer at SapientNitro
Michael Garcia	2013	Software Engineer at Ultimate Software
Nelson Capote	2013	Interfaces Manager at Trax USA Corp
Justin Korah	2013	Software Development Engineer at Amazon Web Services
Keiser Moya	2013	Business Intelligence Team Lead at Health Choice Network
Linnet Fernandez	2013	Software Engineer at TradeStation
Luis Irizarry	2013	Technical Solutions Engineer at Criteo
Maria Eugenia Belottini	2013	IVR - CTI Automation Manager at TracFone Wireless
Jimmy Mauri	2013	Associate Software Engineer at Emerson Network Power
Jonathan Lozano	2013	Software Developer & Integrator at USAA
Jorge Fernandez	2013	Software Engineer at accesso
Jose A. Camino	2013	Software Engineer at CreativeDrive
Julian Nodarse	2013	Associate Technology at SapientNitro
Justin Rodriguez	2013	Embedded Software Engineer at Randstad Technologies US
Ernesto Perez	2013	System Analyst at World Fuel Services
Francisco J. Peleato	2013	Developer - CRM Selling Systems at Office Depot
Gregory Jean-Baptiste	2013	Graduate Intern at VMWare

Name	Year	Employment
Humberto Suarez	2013	IOS Developer at Powa Technologies
Jesse Domack	2013	Systems Analyst at State Farm
Carlos Fernandez	2013	Programmer at Perry Ellis International
Daniel Florez	2013	SQA Engineer at Arbor Networks
Darie Dorlus	2013	Founder & Chief Visionary Officer at SynchronizeD Technologies
Diego Perez	2013	Software Developer at ReservHotel
Enmanuel Corvo	2013	Lead Application Engineer at LiveAnswer, Inc.
Andres Gonzalez Telo	2013	Software Engineer at ASAPP, Inc
Andres Acosta	2013	Software Engineer at Kronos
Anthony Gonzalez	2013	Engineer at American Express
Antonio Diaz	2013	Software Engineer at Apple
Antonio Vazquez	2013	Application Developer at Global Knowledge Link
Asaad Ziodeen	2013	Associate MAX Engineer at TracFone Wireless
Brian Lara	2013	IT Analyst at World Fuel Services
Bryan Jimenez	2013	Programmer at University of Miami
Camilo Sanchez	2013	Software Engineer at Independent Purchasing Cooperative
Roberto Isaac	2012	Software Developer at Emphasys Software
Roger Castillo	2012	Field testing specalist at RIM | BlackBerry
Salma Rodriguez	2012	Software Engineer at IBM
Reyneiro Hernandez	2012	Founder, Software Engineer at Yodel Messenger

Name	Year	Employment
Joel Ortiz	2012	EDI Development Services Program Manager at Beacon Health Options
Jorge Cabrera	2012	Research Assistant at FIU VISA Research Lab
Julio Reyes	2012	Senior Andriod Software Engineer at Phunware, Inc.
Gabrielle Moestar	2012	Business Analyst at Cross Country Home Services
Jason Clary	2012	Sr. Software Engineer - iOS at BluVision, Inc.
Alfonso Boza	2012	Senior Software Engineer at Citrix
Daniel Carrillo	2011	Diageo Academy Analyst at Diageo
Edward Amoros	2011	IT Systems Administrator at Florida Power & Light
Jairo Pava	2011	Software Test Engineer at Ultimate Software
Janet Machado	2011	IT Analyst at Armor Correctional Health Services
Jesus Lugo	2011	Corporate Operations Engineer at Google
Jose Hernandez	2011	Developer at Sentry Data Systems
Jose Seara	2011	Senior Information Security Risk Analyst at Spirit Airlines
Mackenson Mathurin	2011	SaaS Application Services Engineer at Ultimate Software
Stephen Bromfield	2011	Assistant Director of Media Systems at Florida International University
Vamsi Punna	2011	Senior Software Engineer at Allscripts
Yamil Fajardo	2011	Assistant Director, Global Information Security at EY
Yanmei Wu	2011	Junior Software Engineer at HasOffers
Alejandro Bascuas	2010	Principal Product Architect at Akamai Technologies
Alexander Kintis	2010	Associate , Global Technology at JPMorgan Chase
Dionny Santiago	2010	Test Architect at Ultimate Software
Enzo Alvarez	2010	Infrastructure Vulnerability Assessment Analyst at Citi

Name	Year	Employment
Fanny Ramirez	2010	Software Engineer at Ultimate Software
Juan Duarte	2010	Senior Software Engineer at Insureon
Liz Cardenas	2010	Avionics Systems Engineer at GE Aviation
Andres Gonzalez Jr.	2009	Senior Software Engineer / Team Lead at SAP
Carlos Perez	2009	Software Developer & System Analyst at Intradata Solutions
George Sante	2009	Software Engineer at Ultimate Software
Hector Gonzalez	2009	Entrepreneur, Engineer
Levi Sutton	2009	Senior Software Development Engineer at Time Inc.
Ravi Nath	2009	Software Engineer at Ultimate Software
Yohann Taieb	2009	Senior iOS Developer at CBS Interactive
Ivan Olmos	2009	Lead Interface Developer at Insight Sofware, LLC
Michael Alonso	2008	Software Engineer at Ultimate Software
Rolando Ramos	2008	Lead Developer / Software Developer at RelayHealth
Ruben Duque	2008	Software Development Engineer at Amazon
Alain Esteva Ramirez	2008	Java Developer at TracFone Wireless
Jairo Quintana	2008	Senior Software Engineer at Interval International
Jesus Bello	2008	Full-stack Engineer at SmartProcure
Khaled Janania	2008	Senior DevOps Engineer at NCR Corporation
Marylurdys Hernandez	2008	Software Engineer at Technia AB
Jairo Quintana	2008	Associate at Deutsche Bank
Eddy Lara	2007	Software Engineer
Joe Marrero	2007	Senior Software Engineer at Citrix
Jorge Garcia	2007	Software Developer at Lumos Consulting Group

Name	Year	Employment
Hernandez		
Luis Atencio	2007	Staff Software Engineer at Citrix Systems
Marcelo Lopez	2007	Agile Coach/Trainer at 3Back LLC
Michael Calleiro	2007	Senior Software Engineer at American Express
Rexwell Minnis	2007	Manager, Web Operations at Citrix Systems
Evy Torres	2006	Advisory Software Engineer, WW Industry Solution Products at IBM
Ingrid Serrano	2006	CIO at Quirch Foods, Co.
Roger Lopez	2006	Principal Software Engineer at Red Hat
Eddie Incer	2006	Senior J2EE Web Developer Consultant at Royal Caribbean International
Ernesto Jordan	2006	Systems Analyst and Programmer 2 at Miami-Dade Police Department (MDPD)
John Martinez	2005	Power Processor DFT Engineer at IBM
Robert Redway	2005	Manager Technology at Sapient
Tule Cabrera	2005	Senior Attorney, State of Florida
Alexander Jelinek	2004	Senior Product Manager, Platform Automation and Customer Enablement Group at Cisco
Gustavo Flores	2004	Senior Support Engineer at Amadeus North America
Mauricio Suarez	2004	Senior Software Engineer/Consultant at Bupa Global Latin America
Melissa Betancourt	2004	Software Engineer at IBM
Michael Olivero	2004	Senior Programmer Analyst at Amadeus IT Group
Sandra Martinez	2004	Engineering Manager at The Boeing Company
Nina Parton	2003	Systems Analyst II at MEDNAX
Silviu Necula	2003	Director of Information Technology at M33 Integrated Solutions

Name	Year	Employment
William Spieler	2003	Patent Examiner at USPTO
Andres Altamirano	2003	Java Applications Developer at UnitedHealth Group
Eric Kobrin	2003	Director of Adversarial Resilience at Akamai Technologies
Iouri Chadrine	2003	Senior Information Security Analyst at Citigroup
Jose Gonzalez	2003	Senior Product Manager - Mobile at VEVO
Jose Merilien	2003	IT-Application Operations at AutoNation
Mike Capote	2002	Management Consulting: Cyber-security, Data Privacy, and IT Assurance Services Firm
Euton Lyons	2000	Project Lead (I&T) at General Dynamics
Jason Dettbarn	2000	Founder & CEO at Addigy Technology
Gautam Mansinghka	1998	Support Escalation Engineer at Microsoft
Cary Bakker	1995	Head of Mobile Development at Moocho
Jeff Li	1995	Senior Software Architect at IBM
Louis Florit	1995	Apple Pay SRE Manager at Apple Inc.
Virgil Mocanu	1994	Staff Software Engineer at Citrix Systems
David Flor	1991	President/Game Designer at Darklight Interactive
Paul Porta	1988	Senior Software Engineer at D+H
William Feild, Jr.	1985	Visiting Instructor at Florida International University

APPENDIX D – Faculty Vitae

The Curriculum Vita for each faculty member of SCIS is presented in no more than 2 pages using the format described below:

1. Name

2. Education – degree, discipline, institution, year

3. Academic experience – institution, rank, title (chair, coordinator, etc. if appropriate), when (ex. 1990-1995), full time or part time

4. Non-academic experience – company or entity, title, brief description of position, when (ex. 1993-1999), full time or part time

5. Certifications or professional registrations

6. Current membership in professional organizations

7. Honors and awards

8. Service activities (within and outside of the institution)

9. Briefly list the most important publications and presentations from the past five years – title, co-authors if any, where published and/or presented, date of publication or presentation

10. Briefly list the most recent professional development activities

1. Name: **Antonio L. Bajuelos** Rank: Instructor
   Tenure-Status: Non-Tenure-Track

2. Degrees Held:
   - **PhD in Applied Math**, Specialization in Computer Sciences, **Joint Institute for Nuclear Research**, Dubna, Russia, **Laboratory of Computer Techniques and Automation**
   - **MSc in Mathematics** with Special Mention and Honours, Specialization in Operations, Research. St. Petersburg State University, St. Petersburg, Russia, **Faculty of Mathematics and Mechanics**
   - **BSc. in Mathematics** with Special Mention and Honours (4.85/5.0), St. Petersburg State University, St. Petersburg, Russia, **Faculty of Mathematics and Mechanics**

3. Date of original appointment to this faculty, followed by dates and ranks of advancement:
   - Fall 2014, **Adjunct**
   - Spring 2015, **Visiting Instructor (Full Time)**
   - Fall 2015 to Present, **Instructor (Full Time)**
4. Non-academic experience
   - **Senior Computer Analyst**, Jan/1995 – Feb/1997, Contact S.A., Dubna, Russia
   - **Information Systems Specialist**, Cubanacan S.A., Havana, Cuba, Department of Marketing, Aug/1992 – May/1994.
   - **Senior Computer Analyst**, Central Bank of Cuba (CBC), Havana, Cuba, Computer Division, Feb/1991 – Aug/1992.
   - **Junior Computer Analyst**. Executive Secretary for Nuclear Affairs, Havana, Cuba, Computer Division, Oct/1984 – Oct/1987.
5. Certifications

6. Current Member in Professional Organizations

7. Honors and Awards

   - Awards of Exceptional Work and distinguished labour, Joint Institute for Nuclear Research, Dubna, Russia, years: 1988, 1989 and 1990.
   - Awards of Exceptional Work and distinguished labour, Central Bank of Cuba, Havana, Cuba, 1992.
   - Award for Junior Scientist – Joint Institute for Nuclear Research, Dubna, Russia, 1988.

8. Service activities (within and outside of the institution)

9. Publications and Presentations

Selected Publications (last 5 years)

- A. L. Bajuelos, S. Canales, G. Hernández-Peñalver, A. M. Martins, I. Matos: "Some Results on Open Edge and Open Mobile Guarding of Polygons and Triangulations", The Computer Journal (2015).
- A. L. Bajuelos, S, Bereg, A. M. Martins: "Guarding Orthogonal Galleries with Rectangular Rooms", The Computer Journal, The Computer Journal, (2013).

- M. Abellanas, A. L. Bajuelos, S. Canales, M. Claverol, Gregorio Hernández, I. Matos: "Connecting Red Cells in a Bicolour Voronoi Diagram", Lecture Notes in Computer Science, Volume 7579, pp 210-219 (2012).
- Bajuelos A, L., Canales S., Hernández G., Martins A. M.: "A Hybrid Metaheuristic Strategy for Covering with Wireless Devices". Journal of Universal Computer Science, Vol. 18, Issue 14, pp. 1906-1932 (2012).
- M. Abellanas, A. L. Bajuelos, S. Canales, M. Claverol, G. Hernández and I. Matos: "Connecting Red Cells in a Bicolour Voronoi Diagram". A. Márquez et al. (Eds.): EGC 2011 (Hurtado Festschrift), LNCS 7579, pp. 210–219, (2012).
- M. Abellanas, A.L. Bajuelos and I. Matos: "Minimizing the Range for k-Covered Paths on Sensor Networks". The Computer Journal, Volume 55, Issue 1, pp: 69-81 (2012).
- M. Abellanas, A.L. Bajuelos, F. Hurtado and I. Matos: "Coverage restricted to an angle". Operations Research Letters, Volume 39, Issue 4, pp 241-245 (2011).

Selected Presentations

- "Connecting Red Cells in a Bichromatic Voronoi Diagram", XIV Encuentros de Geometría Computacional (XIV EGC), Alcalá de Henares, Spain, 2011.
- "Solving the Minimum Vertex Floodlight Problem with Hybrid Metaheuristics", XIV Encuentros de Geometría Computacional (XIV EGC), Alcalá de Henares, Spain, 2011.
- "Safe Routes on a Street Graph with Minimum Power Transmission Range", XXV European Workshop on Computational Geometry, Brussels, Belgium, March 16-18, 2009.

10. Professional Development.

- Supervising of the project "**Geometric Optimization on Visibility Problems**", (post-doctoral fellows, since 2011, supported by the Foundation of sciences and Technologies of Portugal and in collaboration with researchers of the Technical University of Madrid, Spain).
- Participation in the SCIS Faculty Seminars.

1. **Name: Rick Blazek** Rank: Instructor
Tenure-Status: Non-Tenure-Track

2. Degrees Held: MA, Philosophy; MDiv, Theology; MS, CIS; PhD, CIS

3. Date of original appointment to this faculty, followed by dates and ranks of advancement:
Joined FIU in Fall 2014 as Full-Time Instructor

4. Non-academic experience
Various companies as consultant from 1993 to 2014

5. Certifications
CEH-Certified Ethical Hacking, Security+, CCNA, CCAI (Cisco Academy), A+, Network+, qualified to teach VMware IT Academy curriculum and EMC Storage and Cloud curriculum.

6. Current Member in Professional Organizations

7. Honors and Awards
Instructor of the Year, RMU, 2002; consistently high course evaluations and "Exceeds Expectations" Annual Review

8. Service activities (within and outside of the institution)
Under-Graduate Curriculum Committee 2015-16, FIU
Committee on New Program Accreditations and Certifications, Robert Morris University, Illinois

9. Publications and Presentations
"A New Approach to Overcoming the Cold-Start Problem", Frontiers in Education: Proceedings of Computer Science and Computer Engineering Conference, July 2009, Las Vegas.
Reviewer: Whitman, et. al. Guide to Network Security. Cengage 2013.
Reviewer: Farwood, Lab Manual for Security+ Guide to Network Security Fundamentals, Cengage 2012.
Consultant: Prowse, Authorized Cert Guide, CompTIA Security+, SYO-301, Pearson 2012.
Several Corporate Seminars: Protecting Personal Identifying Information (PII)

10. Professional Development

1. **Name: J. Leonardo Bobadilla** Rank: Assistant Professor
Tenure-Status: Tenure Track

2. Degrees Held:

Ph.D. Computer Science, University of Illinois at Urbana-Champaign, 2013
M.Sc. Statistics, National University of Colombia, 2007
B.E. Computer Engineering, National University of Colombia, 2004

3. Date of original appointment to this faculty, followed by dates and ranks of advancement:

August, 2013 – present: Assistant Professor

4. Non-academic experience

n/a

5. Certifications

n/a

6. Current Member in Professional Organizations

Institute for Electrical and Electronics Engineers (IEEE), Member, 2007–present
IEEE Robotics and Automation Society (2008–present)

7. Honors and Awards

Illinois Student Undergraduate Research (ISUR) Graduate Mentor Award 2012-2013
Fellowships (UIUC)
Top ten student graduate in Computer Engineering in Colombia, ECAES (Colombian Ministry of Education 2004)
Outstanding Graduate Students Scholarship, College of Sciences, 2006–2007 (UNAL)
Best admission score in College of Sciences Master Programs (4.96/5), 2005 (UNAL)
Honorary Enrollment and Scholarship, College of Engineering, 1999, 2001, 2002, 2003 (UNAL)

8. Service activities (within and outside of the institution) [2015-2016 academic year]

Member, Hiring Committee, School of Computing and Information Sciences, FIU

Program Committee Program Committee Member for the Machine Learning in Planning and Control of Robot Motion workshop (MLPC-2015)

9. Publications and Presentations [2015-2016 academic year]

Modeling and Analyzing Occupant Behaviors in Building Energy Analysis Using an Information Space Approach. T. Carmenate, M. M. Rahman, L. Bobadilla, D. Leante, and A. Mostafavi. In IEEE International Conference on Automation Science and Engineering, 2015

Discrete-Event and Motion Planning Methodology for Automated Safety Assessment in Construction Projects. M. M. Rahman, T. Carmenate, L. Bobadilla, S. Zanlongo,and A. Mostafavi. In IEEE International Conference on Robotics and Automation, 2015

Verified Planar Formation Control Algorithms by Composition of Primitives. L. Bobadilla, T. T. Johnson, and A. LaViers. AIAA: Guidance, Navigation, and Control, 2015.

Distributed Multi-Robot Area Patrolling in Adversarial Environments T. Alam, M. Edwards, L. Bobadilla, and D. Shell. In CPS Week: Workshop on Robotic Sensor Networks, 2015.

Decoding and Simulating Occupancy Behaviors in Building Energy Performance. T. Carmenate, L. Bobadilla, S. Zanlongo, and A. Mostafavi. In ASCE International Workshop on Computing Computing in Civil Engineering, 2015

10. Professional Development

n/a

1. **Name: Bogdan Carbunar** Rank: Assistant Professor
Tenure-Status: Tenure Track

2. Degrees Held: Ph.D., Computer Science, Purdue University, 2005

3. Date of original appointment to this faculty, followed by dates and ranks of advancement:

August 2011

4. Non-academic experience
June 2005-July 2011: Principal Research Staff, Motorola Labs

5. Certifications
N/A

6. Current Member in Professional Organizations

ACM, IEEE

7. Honors and Awards

1. Nicolas D. Georganas Best Paper Award 2014 for the paper ”A Framework for Network Aware Caching for Video on Demand Systems” that appeared in the ACM Transactions on Multimedia Computing Communications and Applications (TOMCCAP), Volume 9, Issue 4, August 2013.
2. Best student paper award for the paper ”Turning the Tide: Curbing Deceptive Yelp Behaviors” that appeared in Proceedings of the SIAM International Conference on Data Mining (SDM), 2014.
3. Best paper award for the paper ”Yelp Events. Making BricksWithout Clay?” that appeared in IEEE HotPOST@ICDCS.

8. Service activities (within and outside of the institution)

1. College Curriculum Committee Representative (2015-2016)
2. Tenure Track Faculty Hiring Committee (2015-2016)
3. Graduate Committee (2015-2016)
4. College Faculty Council (2015-2016)

9. Publications and Presentations

1. Mahmudur Rahman, Bogdan Carbunar, Umut Topkara. Secure Management of Low Power Fitness Trackers. IEEE Transactions on Mobile Computing (**TMC**), Volume 15, Number 2, 2016. Extends **ICNP** 2014 paper.
2. Bogdan Carbunar, Rahul Potharaju. A Longitudinal Study of the Google App Market. In Proceedings of the IEEE/ACMInternational Conference on Advances in Social Networks Analysis and Mining (ASONAM), Paris, August 2015.

3. Mahmudur Rahman, Mozhgan Azimpourkivi, Umut Topkara, Bogdan Carbunar. Liveness verifications for citizen journalism videos. In Proceedings of the 8th ACM Conference on Security & Privacy in Wireless and Mobile Networks (**WiSec**), New York City, June 2015.
4. Ian Michael Terry, Anita Wu, Sebastian Ramirez, Alex Pissinou Makki, Leonardo Bobadilla, Niki Pissinou, S.S. Iyengar, Bogdan Carbunar. GeoFit: Verifiable Fitness Challenges. In Proceedings of the First National Workshop for REU Research in Networking and Systems (**REUNS**), October 2014. Authored by 2 undergrads and 2 K-12 students mentored by the PI.
5. Mahmudur Rahman, Bogdan Carbunar, Jaime Ballesteros, George Burri, Duen Horng (Polo) Chau. Turning the Tide: Curbing Deceptive Yelp Behaviors. In Proceedings of the SIAM International Conference on Data Mining (**SDM**), Philadelphia, April 2014. Best Student Paper award.
6. Bogdan Carbunar, Radu Sion, Rahul Potharaju, Moussa Ehsan. Private Badges in GeoSocial Networks. IEEE Transactions on Mobile Computing (**TMC**), Volume 13, Number 10, 2014. Extends **ACNS** 2012 paper.
7. Mahmudur Rahman, Umut Topkara, Bogdan Carbunar. Seeing is Not Believing: Visual Verifications through Liveness Analysis using Mobile Devices. In Proceedings of the Annual Computer Security Applications Conference (**ACSAC**), New Orleans, December 2013.
8. Bogdan Carbunar, Rahul Potharaju, Michael Pearce, Venu Vasudevan, Michael Needham. A framework for network aware caching for video on demand systems. ACM Transactions on Multimedia Computing, Communications and Applications (TOMCCAP) 9(4): 30 (2013). ACM TOMM Nicholas D. Georganas best paper award 2014.
9. Jaime Ballesteros, Bogdan Carbunar, Mahmudur Rahman, Naphtali Rishe. Yelp Events: Building Bricks Without Clay? In Proceedings of the 5th International Workshop on Hot Topics in Peer-to-peer Computing and Online Social Networks (**HotPOST**), July 2013. Best Paper award.
10. Bogdan Carbunar, Rahul Potharaju. You Unlocked the Mt. Everest Badge on Foursquare! Countering Location Fraud in GeoSocial Networks. In Proceedings of the 9th IEEE International Conference on Mobile Ad hoc and Sensor Systems (MASS), Las Vegas, October 2012.

10. Professional Development

1. **Name: Maria Cristina Charters** **Rank:** Instructor
Tenure-Status: Non-Tenure-Track

2. **Degrees Held**: Bachelor of Science - CS, Master of Science - CS (2000)

3. Date of original appointment to this faculty, followed by dates and ranks of advancement:

- Adjunct, SCIS – Fall 2011 to Summer 2014
- Instructor, SCIS – Fall 2014 to Present

4. **Non-academic experience**

- Programmer/Analyst at Florida Power and Light Company - 1982 – 1997
- High School Computer Science Educator – 1997 - 2011
- Instructional Technology Curriculum Support Specialist,
  at District Office, Miami-Dade County Public Schools 2011 - 2014

5. **Certifications**

- National Board Certified, K-12, Computer Science.
- State of Florida Certified K-12 Computer Science Education.

6. **Current Member in Professional Organizations**

- ACM

7. **Honors and Awards**

- Teaching Award, FIU School of Computing and Information Sciences, December 2015
- Google Ignite Award to fund activities of the *FIU Coding Panther Cubs* outreach

8. **Service activities (within and outside of the institution)**

- At FIU, created and lead the *FIU Coding Panther Cubs*, an organization of CS, IT, and Eng. students who volunteer their time weekly to teach CS at elementary schools near FIU.
- Outside FIU, Code.org affiliate, training elementary school teachers on CS K-5 curriculum

9. **Presentations**

10. Professional Development

Attended Special Interest Group Computer Science Education, SIGCSE, 2015
Attended Code.org Summit, 2015
Attended Computing Education for the 21st Century PI Meeting, 2015
Attended NSF Review Panel of STEM+C Grant Applications

1. **Name: Shu-Ching Chen** Rank: Full Professor
Tenure-Status: Tenured

2. Degrees Held:

Degree	**Institution**	**Field**	**Dates**
Ph.D.	Purdue University West Lafayette, IN	School of Electrical & Computer Engineering	December 1998
M.S.	Purdue University West Lafayette, IN	Computer Science	August 1992
MSEE	Purdue University West Lafayette, IN	Electrical Engineering	May 1995
M.S.	Purdue University West Lafayette, IN	Civil Engineering	August 1996
B.M.	Feng Chia University Taiwan, R.O.C.	Traffic & Transportation Engineering and Management	June 1986

3. Date of original appointment to this faculty, followed by dates and ranks of advancement:

Institution	**Rank**	**Field**	**Dates**
FIU	Assistant Professor	Computing and Information Sciences	08/1999-08/2004
FIU	Associate Professor	Computing and Information Sciences	08/2004-08/2009
FIU	Professor	Computing and Information Sciences	08/2009-present

4. Non-academic experience

Place of Employment	**Title**	**Dates**
Micro Data Base Systems Inc. (IN, USA)	R&D Software Engineer	10/1998-08/1999
United World Chinese Commercial Bank, Taiwan, R.O.C.	System Engineer	11/1988-07/1990

5. Certifications: N/A
6. Current Members in Professional Organizations: IEEE, ACM, AAAS
7. Honors and Awards
   1) AAAS Fellow (2017)
   2) IEEE Fellow (2016)
   3) Eminent Scholar Chaired Professor in Computer Science, School of Computing and Information Sciences, Florida International University, 2014-2017.
   4) Excellence in Service Award, School of Computing and Information Sciences, Florida International University, 2014.

8. Services activities

PROFESSIONAL SERVICE

- Vice President: Society for Information Reuse and Integration
- Founding Editor-in-Chief: International Journal of Multimedia Data Engineering and Management (IJMDEM), IGI Global
- Technical Committee
  - Chair, Technical Committee on Multimedia Computing (TCMC), IEEE Computer Society (2010-2015)
  - Co-Chair: Technical Committee on Knowledge Acquisition in Intelligent Systems, IEEE SMC Society

- Co-Founder and Advisory Board: Bay Area Multimedia Forum (BAMMF)
- Associate Editor/Editorial Board: IEEE Transactions on Human-Machine Systems; IEEE Multimedia Magazine

UNIVERSITY/COLLEGE/DEPARTMENT SERVICE

University:

- Accelerate Research, Innovation and Entrepreneurship committee (2015-present)

College:

- College Award Committee - SCIS Representatives (2015-2016)

School:

- Human Resource Committee (2015-2016)
- Executive Committee (2015-2016)
- Annual Awards Committee (2015-2016)
- Faculty Recruitment Committee (2015-2016)

9. Publications and Presentations

Refereed Journals:

1) Fausto Fleites, Haohong Wang, and Shu-Ching Chen, "Enabling Enriched TV Shopping Experience via Computational and Temporal Aware View-Centric Multimedia Abstraction," *IEEE Transactions on Multimedia*, 17(7), pp. 1068-1080, July 2015.
2) Fausto Fleites, Haohong Wang, and Shu-Ching Chen, "TV Shopping via Multi-Cue Product Detection," *IEEE Transactions on Emerging Topics in Computing*, Volume 3, Issue 2, pp. 161-171, June 2015.
3) Ahmed T. Soliman, Tao Meng, Shu-Ching Chen, S. S. Iyengar, Puneeth Iyengar, John Yordy, and Mei-Ling Shyu, "Driver Missense Mutation Identification Using Feature Selection and Model Fusion," *Journal of Computational Biology*, December 2015, 22(12): 1075-1085. doi:10.1089/cmb.2015.0110.

Refereed Conference/Symposium/Workshop Proceedings:

1) Yilin Yan, Min Chen, Mei-Ling Shyu, and Shu-Ching Chen,"Deep Learning for Imbalanced Multimedia Data Classification," *IEEE International Conference on Multimedia (ISM 2015)*, Miami, FL, pp. 483-488, December 14-16, 2015.
2) Hsin-Yu Ha, Yimin Yang, Samira Pouyanfar, Haiman Tian, and Shu-Ching Chen, "Correlation-based Deep Learning for Multimedia Semantic Concept Detection," *The 16th International Conference on Web Information System Engineering (WISE 2015)*, Miami, FL, pp. 473-487, November 1-3, 2015.

10. Professional Development: N/A

1. **Name: Trevor Cickovski** Rank: Visiting Instructor in SCIS
Tenure-Status: Non-Tenure-Track

2. Degrees Held: Ph.D., Computer Science and Engineering, University of Notre Dame, 2008

3. Date of original appointment to this faculty, followed by dates and ranks of advancement:
Visiting Instructor of Computer Science (2015-2016), Florida International University
Associate Professor of Computer Science (2014-present, on leave), Eckerd College
Assistant Professor (2008-2014) Eckerd College
Research Assistant (2001-2008), University of Notre Dame
Instructor (2007), University of Notre Dame

4. Non-academic experiece N/A

5. Certifications N/A

6. Current Member in Professional Organizations AAUP, ACM, IEEE

7. Honors and Awards
Tenure and Promotion to Associate Professor (2014), Eckerd College
OpenMM Visiting Scholars Program (2012), Stanford University
Kaneb Award for Excellence in Teaching (2006), University of Notre Dame
Upsilon Pi Epsilon (2004), Computer Science Honor Society
Tau Beta Pi (2001), Engineering Honor Society

8. Service activities (within and outside of the institution) Discipline Coordinator, Department of Computer Science, Eckerd College (2012-2015) Reviewer, Journal of Computational Chemistry
Mentor and Graduate Fellowship Advisor
Committees: Intercollegiate Athletics, Admissions/Scholarships, Computer Policy
Senior Thesis Supervisor, Austin Vance, 2012 Faculty Observer to Board of Trustees Harvard Medical School/Center for Human Genetic Research Selection Committee Writing Portfolio Reviewer
Service Project for Academy Prep Middle School, Alumni Database

9. Publications and Presentations
* T. Cickovski, V. Aguiar-Pulido, W. Huang, S. Mahmoud and G. Narasimhan. Lightweight Microbiome Analysis Pipelines. To appear in *International Work Conference on Bioinformatics and Biomedical Engineering (IWBBIO16)*, Granada, Spain.
* V. Aguiar-Pulido, W. Huang, V. Ulloa-Suarez, T. Cickovski, K. Mathee and G. Narasimhan. Metagenomics, Metatranscriptomics and Metabolomics Approaches for Microbiome Analysis. To appear in *Evolutionary Biology*, 2016.
* T. Cickovski, E. Peake, V. Aguiar-Pulido and G. Narasimhan. ATria: A Novel Centrality Algorithm Applied to Biological Networks. *Proceedings of 5th IEEE International Conference on Computational Advances in Bio and Medical Sciences (ICCABS '15)*, Miami, FL, Oct. 2015.
* T. Cickovski, T. Flor, G. Irving-Sachs, P. Novikov, J. Parda and G. Narasimhan. GPUDePiCt: A Parallel Implementation of a Clustering Algorithm for Computing Degenerate Primers on Graphics Processing Unit. *IEEE/ACM Transactions on Computational Biology and Bioinformatics*, 12(2):445-454, 2015.
* J. Sweet, R.J. Nowling, T. Cickovski, C.R. Sweet, V.S. Pande and J. A. Izaguirre. Long Timestep Molecular Dynamics on the Graphics Processing Unit. *Journal of*

Chemical Theory and Computation 9(8) 3267-3281, 2013. * A. Vance and T. Cickovski. A Case Study on Developing a Classroom Web Application Using Behavior Driven Development. *American Journal of Undergraduate Research* 11(3):9-16, 2012. * G. Margolin, I.V. Gregoretti, T. Cickovski, C. Li, W. Shi, M.S. Alber and H.G. Goodson. The Mechanisms of Microtubule Catastrophe and Rescue: Implications From Analysis of a Dimer-Scale Computational Model. *M. Biol. Cell* 23(4):642-656, 2012. * T. Cickovski, S. Chatterjee, J. Wenger, C. Sweet and J.A. Izaguirre. MDLab: A Molecular Dynamics Simulation Prototyping Environment. *Journal of Computational Chemistry* 31(7):1345-1356, 2010. * T. Cickovski, K. Aras, M. Swat, R.M.H. Merks, T. Glimm, H.G.E. Hentschel, M.S. Alber, J.A. Glazier, S.A. Newman and J.A. Izaguirre. From Genes to Organisms via the Cell: A Problem Solving Environment for Multi-Cellular Development. *Computing in Science and Engineering* 9(4):50-60, 2007. * T. Cickovski, C. Sweet and J.A. Izaguirre. MDL, A Domain-Specific Language for Molecular Dynamics. *Proceedings of IEEE 40th ANSS*, Norfolk, VA, 2007. * T. Cickovski, C. Huang, R. Chaturvedi, T. Glimm, H.G.E. Hentschel, M.S. Alber, J.A. Glazier, S.A. Newman and J.A. Izaguirre. A Framework for Three-Dimensional Simulation of Morphogenesis. *IEEE/ACM TCBB* 2(4):273-288, 2005. * J.A. Izaguirre, R. Chaturvedi, C. Huang, T. Cickovski, J. Coffland, G. Thomas, G. Forgacs, M.S. Alber, H.G.E. Hentschel, S.A. Newman and J.A.Glazier. CompuCell, A Multi-Model Framework for Simulation of Morphogenesis. *Bioinformatics* 20 (7):1129-1137, 2004. * T. Matthey, T. Cickovski, S. Hampton, A. Ko, Q. Ma, M. Nyerges, T. Raeder, T. Slabach and J.A. Izaguirre. ProtoMol, An Object-Oriented Framework for Prototyping Novel Algorithms for Molecular Dynamics. *ACM TOMS* 20(3):237-265, 2004. * R. Chaturvedi, J.A. Izaguirre, C. Huang, T. Cickovski, P. Virtue, G. Thomas, G. Forgacs, M.S.Alber, H.G.E. Hentschel, S.A. Newman and J.A.Glazier. Multi-model Simulations of Chicken Limb Morphogenesis. In *ICCS 2003, International Conference, Melboune, Australia and St. Petersburg, Russia. Lecture Notes Comput. Sci. 2659*, pages 39-49, Springer-Verlag, 2003.

10. Professional Development

Participated in the following conferences: Florida Undergraduate Research Conference, NVIDIA GPU Technology Conference, STEM Learning Conference, IMA Classical and Quantum Approaches to Molecular Mechanics, Artificial Life, Midwest Society for Programming Languages and Systems Meeting, Biocomplexity, SIAM Conference on Computational Science and Engineering (session chair), Midwest Numerical Analysis Day

Current and past projects: MiAMi (http://biorg.cis.fiu.edu/MiAMi), GPUDePiCt (http://dantzig.eckerd.edu/gpudepict.htm), LTMD (https://github.com/LCLS/LTMDOpenMM), MDLab (http://mdlab.sourceforge.net), Narwhal (http://narwhal.iamaust.in), CompuCell3D (http://www.compucell3d.org)

1. **Name: Peter J. Clarke** Rank: Associate Professor
Tenure-Status: Tenured

2. Degrees Held:
Ph.D. Clemson University Computer Science 2003; M.S. Binghamton University, SUNY Computer Science 1996; Adv. Dip. University of the West Indies Cave Hill Campus Computer Science 1993; B.Sc. University of the West Indies Cave Hill Campus Computer Science and Mathematics 1987

3. Date of original appointment to this faculty, followed by dates and ranks of advancement:
08/03 – 07/09 Assistant Professor School of Computing and Information Sciences (SCIS) Florida International University (FIU);
08/09 – present Associate Professor Computer Science SCIS, FIU

4. Non-academic experience
N/A

5. Certifications
N/A

6. Current Member in Professional Organizations
Member, Association for Computing Machinery (ACM). Member, American Society for Engineering Education (ASEE), member since 2014. Member, IEEE Computer Society, member since 1999. Founding member of the Association for Software Testing.

7. Honors and Awards
SCIS Excellence Award in Student Mentorship, 2011; SCIS Excellence Award in Student Mentorship, 2008; STEM Transformation Institute's Founding Faculty Fellow, 2015

8. Service activities (within and outside of the institution)
University: Faculty Senate On-Line Review Committee, 2015-2016; FIU Faculty Senator, 2015-2016; Graduate Student Academic Grievance and Misconduct Committee, 2015-2016; Session Chair McNair Scholars Research Conference 2015; Served as a reviewer for the STEM-RC FIU competition, 2014-2015.
College: College of Engineering and Computing Faculty Council – SCIS Representative and Chair, 2015-2016; College of Engineering and Computing Faculty Council – SCIS Representative, 2014-2015; College of Engineering and Computing Awards committee - Chair and Representative for SCIS, 2012-2013.
SCIS: Peer Teaching Evaluator (2 peers) 2015 – 2016; UPE Honors Society Faculty Advisor 2015 – 2016; SCIS Human Resource Committee - Chair 2014 – 2015; UPE Honors Society Faculty Advisor 2014 - 2015.
Professional: Reviewer for Natural Sciences and Engineering Research Council (NSERC) of Canada 2015; NSF Review Panel 2015. Program Co-Chair (1) 15th IEEE International Symposium on High Assurance Systems Engineering (HASE 2014).

9. Publications and Presentations
Publications:

- Andrew A. Allen, Fabio M. Costa and Peter J. Clarke. A user-centric approach to dynamic adaptation of reusable communication services. Personal and Ubiquitous Computing, Springer. (February, 2016) DOI 10.1007/s00779-016-0904-1.

- Karl Morris, Mark Allison, Fabio M Costa, Jinpeng Wei and Peter J Clarke. An Adaptive Middleware Design for Domain-Specific Virtual Machines. Journal of Information and Software Technology. 62, C (June 2015), 21-41. DOI=10.1016/j.infsof.2015.02.003.
- Mark Allison, Karl A. Morris, Fabio M. Costa, and Peter J. Clarke. Synthesizing Interpreted Domain-Specific Models to Manage Smart Microgrids. Journal of Systems and Software, 96(0):172 –193, 2014.
- Peter J. Clarke, Debra L. Davis, Tariq M. King, Jairo Pava and Edward L. Jones. *ACM Transactions on Computing Education (ToCE).* Integrating Testing into Software Engineering Courses Supported by a Collaborative Learning Environment. November 2014, 14(3) Article 18.
- Norman Pestaina, Tiana Solis, and Peter J. Clarke. *In Proceedings of the 121st American Society for Engineering Education (ASEE) - Computing and Information Technology Division Track (CIT) 2014.* Assessing BS-CS Student Outcomes Using Senior Project. Paper id: 10108, 15 pages.
- Peter J. Clarke, Yujian, Fu, James Kiper, and Gursimran Walia. *In Proceedings of the 45th ACM Technical Symposium on Computer Science Education (SIGCSE '14).* Workshop on Integrating Software Testing into Programming Courses (WISTPC 2014). March 5th, page 739.
- Tariq M. King, Andrew A. Allen, Rodolfo Cruz and Peter J. Clarke. *In Proceeding of the 8th International Conference on Autonomic and Trusted Computing (ATC 2011).* Safe Runtime Validation of Behavioral Adaptations in Autonomic Software. Springer Lecture Notes in Computer Science, Vol. 6906 September 2-4, 2011, pages 31-46. (**Best Paper Award**)

Presentations

- "Integrating [Testing] into (Software Engineering Courses) Supported by a Cyberlearning Learning Environment." Physics Education Research Group. FIU February, 23, 2016.
- "Notes from the Field" Faculty Fellows Symposium. FIU STEMposium, February 5, 2016.

10. Professional Development

- National Science Foundation Advanced Grant Writing Conference February 11-12, 2008.
- NSF sponsored workshop: Assessing the State of STEM Concept Inventories. May 10 -12, 2007.

Name: Tim Downey **Rank: Senior Instructor**
Tenure-Status: Non-Tenure-Track

EDUCATION

- 1986 – M. S., State University of New York at Albany, Computer Science
- 1980 – M. S., University of Rhode Island at Kingston, Mathematics
- 1976 – B. S., Bates College, Mathematics, Minor in Speech and Theater

ACADEMIC EXPERIENCE

- FIU, Senior Instructor, SCIS, Fall 2011 - Present
- FIU, Instructor, SCIS, August 1991 – Fall 2011
- FIU, Adjunct Instructor, Computer Science, January 1991 – August 1991
- SUNY Albany, NY, Teaching Assistant, Computer Science, August 1984 – May 1985
- URI Kingston, RI, Teaching Assistant, Mathematics, August 1978 – May 1980
- State of Massachusetts, Teaching Certificate in Secondary Education, Mathematics, 1976

NON-ACADEMIC EXPERIENCE

- Self-employed entertainer, Miami, Florida; Performed all over the world: Japan, Germany, Israel, Austria, France, Italy, Holland, Denmark, Greenland, Canada and across America; Delighted audiences with comedy, juggling and unicycling. 1986 – 1991.
- Self-employed computer consultant, Miami, Florida; Teaching the use of software packages for the PC; writing menu driven software for the PC for small businesses. 1986 – 1991.
- Actuary for the New York State Retirement System, Albany, NY; Supervised up to eight people; managed the Actuarial Valuation and Billing cycles; coded the NY State Retirement System's laws into PVL, a Pension Valuation Language written in PL1. 1980 – 1985.

PROFESSIONAL HONORS, PRIZES

- CEC, College Excellence in Teaching – 2013. One teaching award is presented at the annual awards ceremony in the College of Engineering and Computing.
- SCIS, School Excellence in Teaching – 2012. One teaching award is presented at the annual awards ceremony in the School of Computing and Information Sciences.
- FIU, Promotion to Senior Instructor, Fall 2011.
- FIU, University Excellence in Teaching – 2007. Presented for a commitment to the advancement of knowledge and contributions to the ideals of the University.
- CEC, College Excellence in Teaching – 2006. One teaching award is presented each year at the awards ceremony in the College of Engineering and Computing.
- SCIS, School Excellence in Teaching – 2006. One teaching award is presented at the annual awards ceremony in the School of Computing and Information Sciences.
- FIU, University Excellence in Teaching – 2002. Presented for a commitment to the advancement of knowledge and contributions to the ideals of the University.
- SCIS, School Excellence in Teaching – 2002. One teaching award is presented at the annual awards ceremony in the School of Computing and Information Sciences.
- FIU, Matriculation Merit Award – 2001.
- FIU, University Excellence in Teaching – 1997. Presented for a commitment to the advancement of knowledge and contributions to the ideals of the University.
- FIU, Teaching Incentive Program – 1995.

SERVICE

- 2000-2013 Adviser for the IT and CS undergraduate programs.

- 2000, 2006, 2008-2016 Member of Undergraduate Committee.
- 2005-present, Web Master for the Faculty Union web site, http://www.uff-fiu.org
- 2006-2017 Senator for the Faculty Union.
- 2009-2012 Course Coordinator for the Programming Classes.
- 2012 and 2014 Planned and mentored a senior project for two teams of two students.
- 2015 Chair of Programming Subcommittee for Undergraduate Committee.

PUBLICATIONS

- Guide to Web Development with Java: Understanding Website Creation, ISBN: 978-1447124429
- Web Development with Java Using Hibernate, JSPs and Servlets, ISBN: 978-1-84628-862-3

PROFESSIONAL DEVELOPMENT

- Attended SIGCSE – 2016, Memphis, TN. A national conference for computer science education. Participated in an additional workshop: Arduino Programming.
- Professional Development Leave – Spring 2013. Learned about the growing security field. Studied the syllabi for three of the common certifications in the security field: Security+. Certified Ethical Hacker, Certified Information System Security Professional.
- Attended SIGCSE – 2011, Dallas, TX. A national conference for computer science education. Participated in an additional workshop: Creating Android Applications.
- Attended SIGCSE – 2009, Chattanooga, TN. A national conference for computer science education. Participated in additional workshop: Web Development with Django.
- Attended SIGCSE – 2007, Covington, KY. A national conference for computer science education. Participated in an additional workshop: Teaching OOP in Python.
- Professional Development Leave – Fall 2007. Studied and sat for four certification exams which are common in the Information Technology field. These certifications are related to the syllabi of three courses in our IT degree program. By learning this material, I trained myself to teach these three courses and gained vital insight that was needed when the IT program was redesigned.
- Attended SIGCSE – 2006, Houston, TX. A national conference for computer science education. Participated in additional workshop: Software Development for the Tablet PC.
- Attended SIGCSE – 2004, Norfolk, VA. A national conference for computer science education. Participated in an additional workshop: Using Lego Mindstorm in an AI Course.
- Attended SIGCSE – 2003, Reno, NV. A national conference for computer science education.
- Attended SIGCSE – 2000, Austin, TX. A national conference for computer science education. Participated in two additional workshops: Putting the Fun back into Programming I; Using Robots to Teach Introductory Programming Techniques.
- Attended SIGCSE – 1998 Atlanta, GA. A national conference for computer science education.

1. **Name: Ruogu Fang** Rank: Assistant Professor. Tenure-Status: Tenure-Track
2. Degrees Held: Ph.D. Electrical and Computer Engineering, Cornell University, 2014
3. Date of original appointment to this faculty, followed by dates and ranks of advancement:
   2014 – Present Assistant Professor
4. Non-academic experience
   Full time research intern at Siemens in summer 2010; Full time research intern at Kodak in summer 2011

5. Certifications
6. Current Member in Professional Organizations

- IEEE Member
- American Society of Neuroradiology (ASNR)
- Medical Imaging Computing and Computer Assisted Intervention Society (MICCAI)
- IEEE Signal Processing Society (IEEE SPS)
- The International Society For Optics and Photonics (SPIE)

7. Honors and Awards

- **National Science Foundation CISE CAREER Workshop** Travel Award 2015
- **Hsien Wu and Daisy Yen Wu Memorial Award**, 2014
- **Best Paper Award** at the 17th International Conference on Image Processing, 2010.
- **Irwin and Joan Jacobs Fellowship**, Cornell University, awarded to students who exemplify strength and potential in academics, service, and leadership, 2009-2010
- **Best PhD Poster Award**, Cornell Engineering Research Conference, 2010
- **Student Travel Award** at the International Conference on Medical Image Computing and Computer Assisted Intervention (MICCAI) 2014.
- **Student Travel Award** at the 17th International Conference on Image Processing, 2010.
- **IBM Cornell ECE Women's Conference Travel Grant** to attend the 15th International Conference on Medical Image Computing and Computer Assisted Intervention, 2012.
- **Bao-Steel Scholarship**, for outstanding students, 2008.
- **Li & Fung Scholarship**, 2007-2008.
- **First Prize in National Mathematical Olympics**, China, 2001.

8. Service activities (within and outside of the institution)

Within the institution:
Ph.D. Thesis Committee: Jared Leichner (BME, FIU) - PhD student: Arash Dadkhah (BME, FIU)
EC Library Committee; SCIS PhD admission committee; SCIS Faculty recruitment committee; SCIS Graduate Committee

Outside the institution:
Journal Guest Editor: Computerized Medical Imaging and Graphics (5-Year IF=1.707)
Publicity Chair: IEEE International Conference on Machine Learning and Applications (IEEE ICMLA)
Organizing Committee: The Second Workshop on Sparsity Techniques in Medical Imaging, Medical Imaging Computing and Computer Assisted Intervention Society (MICCAI) at Boston, MA 2014
Program Committee or Conference Reviewer: Program Committee of MICCAI MCV 2015; International Conference on Medical Image Computing and Computer Assisted Intervention (MICCAI'14-15); MICCAI Workshop on Medical Computer Vision: Algorithms for Big

Data (MCV'15); IEEE Conference on Computer Vision and Pattern Recognition (CVPR'13); IEEE International Conference on Computer Vision (ICCV'13); IEEE International Conference on Image Processing (ICIP'10 - 13); IEEE International Symposium on Biomedical Imaging (ISBI'14-15)
National Science Foundation CISE Grant Panelist
Book Reviewer: Digital Image Interpretation, Wiley Publisher
Journal Reviewer: Medical Image Analysis (IF=4.5); IEEE Transactions on Medical Imaging (IF=4.3); Neuroradiology (IF=2.4); IEEE Multimedia (IF=1.7); IEEE Transaction on Instrumentation & Measurement (IF=1.7); Signal Processing Letter (IF=1.6); Cancer Informatics

9. Publications and Presentations (selected from 27 peer-reviewed publications)

- [**J5**] **Ruogu Fang**, Shaoting Zhang, Tsuhan Chen, Pina C. Sanelli. Robust Low-dose CT Perfusion Deconvolution via Tensor Total-Variation Regularization. IEEE Transaction on Medical Imaging, 2015
- **[J4] Ruogu Fang**, Tsuhan Chen, Dimitris Metaxas, Pina Sanelli, Shaoting Zhang. Guest Editorial: Sparsity Techniques in Medical Imaging. Elsevier Journal of Computerized Medical Imaging and Graphics, 2015.
- **[J3]** Ruogu Fang, Haodi Jiang, Junzhou Huang. Tissue-Specific Sparse Deconvolution for Brain CT Perfusion. Journal of Computerized Medical Imaging and Graphics (Elsevier). *Computerized Medical Imaging and Graphics* 46 (2015): 64-72. (5-Year Impact Factor: 1.707)
- [**J2**] **Ruogu Fang**, Kolbeinn Karlsson, Tsuhan Chen, Pina C. Sanelli. Improving Low-Dose Blood-Brain Barrier Permeability Quantification Using Sparse High-Dose Induced Prior for Patlak Model. Medical Image Analysis, Volume 18, Issue 6, Pages 866-880, 2014. (5-Year Impact Factor: 4.777)
- [**J1**] **Ruogu Fang**, Tsuhan Chen, Pina Sanelli. Towards Robust Deconvolution of Low-Dose Perfusion CT: Sparse Perfusion Deconvolution Using Online Dictionary Learning. *Medical Image Analysis*, Volume 17, Issue 4, Pages 417-428, 2013. ((5-Year Impact Factor: 4.777, **Top 25 hottest articles in Medical Image Analysis in 2013 April-June**)
- Direct Estimation of Permeability Maps for Low-Dose CT Perfusion. **Ruogu Fang**, Ajay Gupta, Pina C. Sanelli. **ISBI**, IEEE International Symposium on Biomedical Imaging, Prague, Czech Republic, April 2016.
- **Ruogu Fang**, Junzhou Huang, Wen-Ming Luh. A Spatio-Temporal Low-Rank Total Variation Approach For Denoising Arterial Spin Labeling MRI Data. IEEE International Symposium Onbiomedical Imaging: From Nano To Macro, 2015. (ISBI'15)
- **Ruogu Fang**, Pina Sanelli, Shaoting Zhang, Tsuhan Chen. Tensor Total-Variation Regularized Deconvolution for Efficient Low-Dose CT Perfusion. MICCAI'14, The 17th Annual International Conference on Medical Image Computing and Computer Assisted Intervention, 2014. (MICCAI'14, **MICCAI Student Travel Award**)
- **Ruogu Fang**, Tsuhan Chen, Pina Sanelli. Tissue-Specific Sparse Deconvolution for Low-Dose CT Perfusion. The 16th Annual International Conference on Medical Image Computing and Computer Assisted Intervention, 2013. (MICCAI'13)
- **Ruogu Fang**, Andrew C. Gallagher, Tsuhan Chen, Alexander Loui. Kinship Classification by Modeling Facial Feature Heredity. IEEE International Conference on Image Processing, 2013.
- **Ruogu Fang**, Tsuhan Chen, Pina Sanelli. Sparsity-Based Deconvolution of Low-Dose Perfusion CT Using Learned Dictionaries. The 15th Annual International Conference on Medical Image Computing and Computer Assisted Intervention, 2012. Lecture Notes in Computer Science Volume 7510, 2012, pp 272-280.

- **Ruogu Fang**, Kevin D. Tang, Noah Snavely, Tsuhan Chen. Towards Computational Models of Kinship Verification. The 17th IEEE International Conference on Image Processing, 2010. Oral presentation. (ICIP'10) **ICIP 2010 Best Paper Award, 1/1190 accepted papers**

10. Professional Development

- FIU Teaching Excellence Center Reading Group 2015 on Active Learning
- Mentee of FIU Mentorship Program

1. **Name:** **Mark Finlayson** Rank: Assistant Professor
Tenure-Status: Tenure Track

2. Degrees Held:
Ph.D., Computer Science, Massachusetts Institute of Technology, 2012
M.S., Electrical Engineering, Massachusetts Institute of Technology, 2001
B.S.E., Electrical Engineering, University of Michigan, Ann Arbor, 1998

3. Date of original appointment to this faculty, followed by dates and ranks of advancement:

August, 2014 – present: Assistant Professor

4. Non-academic experience

Consultant (2008—2009) MyRoar, Inc., Boston, MA.
Consultant (2007—2008) EventMonitor, Inc., Boston, MA.
Senior Engineer (2001—2002) Nantero, Inc., Woburn, MA.

5. Certifications

n/a

6. Current Member in Professional Organizations

Association for the Advancement of Artificial Intelligence (AAAI) (2004—present)
Cognitive Science Society (CogSci) (2004—present)
Association for Computational Linguistics (ACL) (2010—present)
American Folklore Society (AFS) (2012—present)
Alliance of Digital Humanities Organizations (ADHO) (2014—present)
International Society for the Study of Narrative (ISSN) (2014—present)
Institute for Electrical and Electronics Engineers (IEEE) (2014—present)

7. Honors and Awards

n/a

8. Service activities (within and outside of the institution) [2015-2016 academic year]

Chair, Seminar Series Committee, School of Computing and Information Sciences, FIU
Member, Hiring Committee, School of Computing and Information Sciences, FIU
General Chair, International Workshop Series on Computational Models of Narrative (CMN)
Member of the PC, Intelligent Narrative Technologies Workshop (INT)
Member of the PC, Workshop on Computational Linguistics for Literature (CLfL)
Member of the PCC, International Workshop on Artificial Intelligence and Cognition (AIC)

9. Publications and Presentations [2015-2016 academic year]

Journal Paper: Finlayson, M. A. (2016). Inferring Propp's Functions from Semantically-Annotated Text. Journal of American Folklore, Special Issue on Computational Folkloristics, 129(511), 53–57.

Journal Paper: Finlayson, M. A. (2015). ProppLearner: Deeply Annotating a Corpus of Russian Folktales to Enable the Machine Learning of a Russian Formalist Theory. Digital Scholarship in the Humanities. doi:10.1093/llc/fqv067

Book Chapter: Finlayson, M. A., & Erjavec, T. (2015). Overview of Annotation Creation: Processes & Tools. In Nancy Ide & James Pustejovsky (Eds), Handbook of Linguistic Annotation. Springer, Berlin.

Invited Talk: 31 August 2015. Computational Tools for Analyzing Narratives: Three Levels. *Laureate Institute for Brain Research (LIBR)*, Tulsa, OK.

Invited Talk: 6 November 2015. Narrative Effects and Lessons for BICA. *BICA 2015: Annual International Conference on Biological Inspired Cognitive Architectures*, Lyon, France:

Invited Talk: 25 February 2016, Leveraging Narrative to Advance Cognitive Computing. IBM Research, Yorktown Heights, NY.

Invited Talk: 8 April 2016, Bayesian Grammar Learning for Natural Language Processing Applications. FIU Mini Conference in Statistical Methodologies, Applications, and Mentoring, Miami, FL.

Invited Talk, 1 July 2016, Automatically Extracting Narrative Structure: Results & Directions. *Facultad de Informática, Univeresidad Complutense de Madrid*, Madrid, Spain.

10. Professional Development

n/a

1. **Name: Xudong He** **Rank**: Full Professor **Tenure Status**: Tenured

2. **Degrees Held**
   Ph.D. Computer Science, Virginia Tech, 1989
   M.S. Computer Science, Nanjing University, China, 1984
   B.S. Computer Science, Nanjing University, China, 1982
3. **Dates of Original Appointment**

   8/05-date: Professor, School of Computing and Information Sciences, FIU
   9/14-12/14: Visiting Professor, Department of Computer Science, Carnegie Mellon Univ.
   8/00-12/13: Director, Center for Advanced Distributed System Engineering, FIU
   8/01-7/05: Associate Professor, School of Computer Science, FIU
   1/00-7/01: Assistant Professor, School of Computer Science, FIU
   9/98-4/99: Visiting Associate Professor, School of Computer Science, FIU
   8/95-12/99: Associate Professor, Dept. of Computer Science, North Dakota State Univ.
   9/89-7/95: Assistant Professor, Dept. of Computer Science, North Dakota State Univ.
4. **Non-Academic Experince None**

5. **Certification None**

6. **Current Member in Professional Organizations**
   - IEEE senior member
   - ACM senior member

7. **Honors and Awards**
   - Annual Faculty Service Excellence Award, School of Computing and Information Sciences, FIU, 2013.
   - Annual Faculty Research Excellence Award, School of Computing and Information Sciences, FIU, 2009.
   - Excellence in Faculty Scholarship, FIU, 2008.
   - Executive Dean's Award in Service, College of Engineering and Computing, 2006.
   - Ranked among the top 15 scholars in Systems and Software Engineering worldwide during 1999 – 2003 by *Journal of Systems and Software*, vol.76, no.1, 2005, 91-97.
   - FIU Faculty Award for Excellence in Research, 2005.
   - Annual Faculty Service Excellence Award, School of Computing and Information Sciences, FIU, 2005.
   - Annual Faculty Teaching Excellence Award, School of Computer Science, FIU, 2003.
   - Best Paper Award, The 11th International Conference on Software Engineering & Knowledge Engineering, 1999.

8. **Service Activities**

Editorial Board
- *Transactions on Application and Theory of Petri Nets and Other Concurrency Models*, Springer Verlag.
- *Advances in Software Engineering*, Hindawi Publishing Co.

Program Committees

- Served on more than 80 program committees of international conferences, symposia, and workshops in from 1990 – 2016.
- Organizing Chair, 26th International Conference of Applications and Theory of Petri Nets (ICATPN), Miami, June, 2005.
- Vice Program Chair, 21st Int'l Computer Software and Applications Conf. (COMPSAC'97), 1997.

Currricula Committee

- **Member of the Discrete Structure Group of the Joint IEEE Computer Society/ACM Task Force on the "Year 2001 Model Curricula for Computing" (CC-2001), 1998 – 2001.**

Reviewer

- National Science Foundation - Software Engineering Division Research Proposals
- Many international archival journals and international conferences

University Service

FIU

- Graduate Committee Chair, School of Computing and Information Sciences, 8/2009 – 8/2016.
- Graduate Program Director, School of Computing and Information Sciences, 8/2006 – 6/2009.
- Director, Center for Advanced Distributed System Engineering, School of Computer Science, 8/2000 – 12/2013.

9. Publications and Presentations

- 35 journal papers
- 9 book and book chapters
- 94 fully refereed conference proceeding papers

10. Professional Development

- Sabbatical leave: Sept. 1998 – May 1999, Florida Interantional University
- Sabbatical leave: Sept. 2014 – Dec. 2014, Carnegie Mellon University

Name: Kip Irvine Rank: Senior Instructor
Tenure-Status: Non-Tenure-Track

2. Degrees Held:

1975 B.M (Music),
1979 M.M. (Music),
1982 Doctor of Musical Arts (Music Composition)
1995 M.S. (Computer Science)

3. Date of original appointment to this faculty, followed by dates and ranks of advancement:

Senior Instructor, School of Computer Science, Florida International University, August 2011
Instructor, School of Computer Science, Florida International University, August 2000 – 2011

4. Non-academic experience

- Founding software developer, Omega Research, 1982-1985.
- Software developer and designer for the Miami-Dade Community College Prometheus project (1990-1995). Adaptive interactive computerized testing system with integegrated tutorials in English and Mathematics.

5. Certifications

none

6. Current Member in Professional Organizations

Senior Member, Association for Computing Machinery

7. Honors and Awards

- SCIS Excellence in Teaching 2008
- SCIS Excellence in Service, 2009, 2012, 2015
- College of Engineering and Computing – Service Award, 2014

8. Service activities (within and outside of the institution)

- Co-Director and founder, Academy for Computer Science Education at FIU, June 2015. Ongoing.
- Member, Miami-Dade County Schools STEM Advisory board, 2015. Ongoing.
- Member, Miami-Dade County Schools Business Technology Advisory board, 2013-2015.
- Faculty advisor for the Student ACM club at FIU (2003. Ongoing.
- Associate Coach of the FIU Programming Team, 2005. Ongoing.
- Director of the FIU Annual High School Programming Competition (2003-2012)
- Lead Judge, FIU Annual High School Programming Competition (2013-2016)
- Volunteer Tutoring Coordinator, FIU School of Computing and Information Sciences, 2008-2012
- COOP Coordinator, FIU School of Computing and Information Sciences, 2010-2015

9. Publications and Presentations

- Book: Kip R. Irvine. Assembly Language for x86 Processors (Addison-Wesley, 2010, 2013)

- Book: Kip Irvine and Tony Gaddis. Starting out with Visual Basic (Addison-Wesley, 2006, 2008, 2010, 2012, 2016)
- Book: Kip Irvine and Tony Gaddis. Advanced Visual Basic (Addison-Wesley, 2006, 2011)
- Book: Kip Irvine, Tony Gaddis, Kaiyang Liang. Advanced Visual Basic .NET (Scott-Jones, 2002, 2005)
- Book: Kip R. Irvine. C++ and Object-Oriented Programming (1997)
- Book: Kip R. Irvine. Assembly Language for the IBM-PC (Prentice-Hall, 1990, 1994)
- Book: Kip R. Irvine. COBOL for the IBM-PC (Prentice-Hall, 1987)

10. Professional Development

- Professional Development leave, 2012. Completed two courses: Human-Computer Interaction, and Component-Based Software Development.

1. **Name: Sitharama S. Iyengar** Rank: Director and Full Professor
   Tenure-Status: Tenured / 2011

2. Degrees Held:

- Ph.D. (Engg.), Mississippi State University, USA 1974

3. **Date of original appointment to this faculty**, followed by dates and ranks of advancement: 8/26/2011 Joined and Tenured

4. Non-academic experience

Consultant to various federal agencies (JPL, ORNL) & Involved in many startup companies.

5. Certifications – N/A

6. Current Member in Professional Organizations

Dr. Iyengar is a Member of the European Academy of Sciences, a Fellow of the Institute of Electrical and Electronics Engineers (IEEE), a Fellow of the Association of Computing Machinery (ACM), a Fellow of the American Association for the Advancement of Science (AAAS), a Fellow of the Society for Design and Process Science (SDPS), and a Fellow of National Academy of Inventors,

7. Honors and Awards

He was awarded Satish Dhawan Chaired Professorship at IISc, then Roy Paul Daneal Professorship at LSU. He has received the Distinguished Alumnus Award of the Indian Institute of Science. In 1998, he was awarded the IEEE Computer Society's Technical Achievement Award and is an IEEE Golden Core Member. He has been a Visiting Professor or Scientist at Oak Ridge National Laboratory, Jet Propulsion Laboratory, Naval Research Laboratory, and has been awarded the Satish Dhawan Visiting Chaired Pro- fessorship at the Indian Institute of Science, the Homi Bhaba Visiting Chaired Professor (IGCAR), and a professorship at the University of Paris-Sorbonne.

Below please find some of his most recent awards.

- FIU Top Scholar award (2014 / 2013)
- IBM Faculty Award (2014)
- Florida Innovation to Industry (2012)
- Lifetime Achievement Award Conferred by ISAM(International Society of Agile Manufacturing) IIT-Banares Hindu University for his lifelong contribution to the fields of Engineering and Computer Science ,December 17,2012
- Best Computer Science Faculty of 2012 on December 30th,2012, Pondicherry at the conference on ASDF Conference on Global Awards.
- Distinguished Research Award from Tunisian Mathematical Society, March 22, 2010, Tunisia
- Distinguished Service Award Roy Paul Daniel's Professor Award (2008-2010)
- ACM | IEEE | SIAM Distinguished scientist (National) lecture

8. Service activities (within and outside of the institution)

S.S. Iyengar is currently the Ryder Professor of Computer Science and Director of the School of Computing and Information Sciences at Florida International University, Miami. He has been involved with research in high-Performance Algorithms, Data Structures, Sensor Fusion, Data Mining, and Intelligent Systems. Since receiving his Ph.D. degree in 1974 from MSU, USA, he has directed over 50 Ph.D. students, 100 Master's students, and many undergraduate students

who are now faculty at Major Universities worldwide or Scientists or Engineers at National Labs/Industries around the world.
His research has been funded by National Science Foundation (NSF), Defense Advanced Research Projects Agency (DARPA), Multi-University Research Initiative (MURI Program), Office of Naval Research (ONR), Department of Energy / Oak Ridge National Laboratory (DOE/ORNL), Naval Research Laboratory (NRL), National Aeronautics and Space Administration (NASA), US Army Research Office (URO), and various state agencies and companies. He has served on US National Science Foundation and National Institute of Health Panels to review proposals in various aspects of Computational Science and has been involved as an external evaluator (ABET-accreditation) for several Computer Science and Engineering Departments across the country and the world. Dr. Iyengar has also served as a research proposal evaluator for the National Academy.

9. Publications and Presentations

He has published more than 500 research papers, has authored/co-authored and edited 22 books. His books are published by MIT Press, John Wiley and Sons, CRC Press, Prentice Hall, Springer Verlag, IEEE Computer Society Press, etc.

- K Chakrabarty, SS Iyengar, H Qi, E Cho "*Grid coverage for surveillance and target location in distributed sensor networks"* - Computers, IEEE Transactions on 51 (12), 1448-1453
- B Krishnamachari, S Iyengar - *"Distributed Bayesian algorithms for fault-tolerant event region detection in wireless sensor networks"*- Computers, IEEE Transactions on 53 (3), 241-250
- RR Brooks, SS Iyengar - *"Multi-sensor fusion: fundamentals and applications with software"* -Prentice-Hall, Inc.
- SS Dhillon, K Chakrabarty, SS Iyengar - *"Sensor placement for grid coverage under imprecise detections"* - Information Fusion, 2002. Proceedings of the Fifth International Conference
- H Qi, SS Iyengar, K Chakrabarty - *"Multiresolution data integration using mobile agents in distributed sensor networks"* - Systems, Man, and Cybernetics, Part C: Applications and Reviews, IEEE
- L Prasad, SS Iyengar - *"Wavelet analysis with applications to image processing"* - CRC press
- S. Sitharama Iyengar, Richard R. Brooks - *"Distributed Sensor Networks: Sensor Networking and Applications"* - CRC press
- H Qi, SS Iyengar, K Chakrabarty - "Distributed sensor networks—a review of recent research" - Journal of the Franklin Institute 338 (6)
- NSV Rao, S Kareti, W Shi, SS Iyengar - "Robot navigation in unknown terrains: Introductory survey of non-heuristic algorithms" - Oak Ridge National Laboratory
- UR Acharya, PS Bhat, SS Iyengar, A Rao, S Dua - "Classification of heart rate data using artificial neural network and fuzzy equivalence relation" - Pattern Recognition 36 (1), 61-68
- BJ Oommen, SS Iyengar, NSV Rao, RL Kashyap - "Robot navigation in unknown terrains using learned visibility graphs. Part I: The disjoint convex obstacle case" - Robotics and Automation, IEEE Journal of 3 (6), 672-681

10. Professional Development – N/A

1. **Name: Tao Li** Rank: Professor
Tenured Status: Tenured

2. **Education**
   - 1995 B.S. in Computer Science, Fuzhou University, Fuzhou, P.R. China
   - 1998 M.S. in Computer Science, Chinese Academy of Sciences, P.R. China
   - 2000 M.S. in Mathematics, Oklahoma State University, Stillwater, OK, USA
   - 2004 Ph.D. in Computer Science, University of Rochester, Rochester, NY, USA

3. **Academic experience**
   - Fall 2014 - Current: Professor of Computer Science, Florida International University
   - Fall 2009 - Spring 2014: Associate Professor of Computer Science, Florida International University
   - Fall 2004 - Spring 2009: Assistant Professor of Computer Science, Florida International University

4. **Non-academic experience**
   - Summer 2001, Summer 2002: Xerox Research, summer research intern, full time
   - Summer 2003, Summer 2004: IBM T.J. Watson Research, summer research intern, full time

5. **Certifications or professional registrations**
   N/A

6. **Current membership in professional organizations**
   IEEE, ACM

7. **Honors and awards**
   - Excellence in Service Award, College of Engineering and Computing, Florida International University, 2015.
   - Excellence in Research Award, College of Engineering and Computing, Florida International University, 2012.
   - Excellence in Mentorship Award, College of Engineering and Computing, Florida International University, 2011.
   - Xerox University Affair Committee Award, 2005-2008 & 2011-2014.
   - 2011 Kauffman Professor Award.
   - IBM Scalable Data Analytics Innovation Award, 2010.
   - Excellence in Research, Florida International University, 2009.
   - National Science Foundation Faculty CAREER Award, 2006-2011.
   - IBM Faculty Research Award, 2005, 2007 & 2008.
   - IBM Shared University Research Award, 2005.

8. **Service activities**
   - Associate Editor: ACM Transactions on Knowledge Discovery from Data (ACM TKDD), IEEE Transactions on Knowledge and Data Engineering (TKDE), Knowledge and Information System (KAIS) Journal
   - Program Committee Member: SIGKDD 2016, WISE 2015, AAAI 2014, SIAM Data Mining 2014, ICDM 2013, SIGIR 2013, ACL 2013, CIKM 2013, ICDM 2013, ICDE 2012, CIKM 2012, WWW 2011, ICDM 2011, SIGIR 2010, SIGKDD 2009, SIGIR 2009, SIGIR 2008, SIGKDD 2008, SIGKDD 2007, SIGKDD 2006.
   - Workshop Co-chair, ICDM 2004 and 2005 and KDD 2006 Workshops on Temporal Data Mining: Algorithms, Theory and Applications; KDD 2008 and 2009Workshops on Data Mining using Matrices and Tensors; ICDM 2009, 2010 and 2011 Workshops on Optimization-based methods for Emerging Data Mining problems (OEDM'09, OEDM'10, OEDM'11).

- Guest Co-editor: Special issues on Temporal Data Mining and Data Mining using Matrices, Graphs and Tensors with DMKD (Data Mining and Knowledge Discovery) Journal; Special issue on music data mining with IEEE Transactions on Multimedia.
- Journal Referee: Applied Intelligence, ACM Transactions on Information Systems, Bioinformatics, Computational Statistics and Data Analysis, Data and Knowledge Engineering, Data Mining and Knowledge Discovery, IEEE Transactions on Audio, Speech, and Language Processing, IEEE Transactions on Knowledge and Data Engineering, IEEE Transactions on Multimedia, IEEE Transactions on Systems, Man and Cybernetics, IEEE Transactions on Pattern Analysis and Machine Intelligence, Information Processing and Management, Information Sciences, Information Systems, Journal of Systems and Software, Journal of Classification, Journal of Combinatorial Optimization, Journal of Machine Learning Research, Machine Learning Journal, Pattern Recognition Letters, Theoretical Computer Science, VLDB Journal

9. Some recent publications

- Li Zheng, Tao Li, and Chris H. Q. Ding. A Framework for Hierarchical Ensemble Clustering. *ACM Transactions on Knowledge Discovery and Data Mining (ACM TKDD)*, 9(2): 9, 2014.
- Liang Tang, Tao Li, Yexi Jiang, and Zhiyuan Chen. **Dynamic Query Formsfor Database Queries**, *IEEE Transactions on Knowledge and Data Engineering*,**26**(9): 2166-2178, 2014.
- Lei Li and Tao Li. An Empirical Study of Ontology-based Multi-document Summarization in Disaster Management, *IEEE Transactions SMC: Systems*, 44(2): 162-171, 2014.
- Yexi Jiang, Chang-shing Perng, Tao Li, and Rong Chang. Cloud Analytics for Capacity Planning and Instant VM Provisioning, *IEEE Transactions on Network and Service Management (TNSM)*, 10(3): 312-325, 2013.
- Zhiyuan Chen, Tao Li, and Yanan Sun. A Learning Approach to SQL Query Results Ranking Using Skyline and Users' Current Navigational Behavior,*IEEE Transactions on Knowledge and Data Engineering*, 25(12): 2683-2693, 2013.
- Dingding Wang, Shenghuo Zhu, Tao Li, and Yihong Gong. Comparative Document Summarization via Discriminative Sentence Selection, *ACM Transactions on Knowledge Discovery from Data (ACM TKDD)*, 6(3): 12, 2012.
- Chris Ding, Tao Li, and Michael Jordan. Convex and Semi-Nonnegative Matrix Factorizations. *IEEE Transactions on Pattern Analysis and Machine Intelligence (IEEE PAMI)*, 32(1): 45-55, 2010.

1. **Name: Christine Lætitia LISETTI** Rank: Associate Professor
Tenure-Status: Tenured

2. Degrees Held:
B.S., M.S., and PhD. in Computer Science from FIU.

3. Date of original appointment to this faculty, followed by dates and ranks of advancement:
August 2007 as an untenured Associate Professor, tenured in July 2015.

4. Non-academic experience:
Consultant for Intel and Microsoft, 1996-1998.

5. Certifications:
Certificate in Cognitive Science, State University New-York at Buffalo, Buffalo, NY, USA, 1994.

6. Current Member in Professional Organizations:
Association for Computing Machinery (ACM) • American Association for Artificial Intelligence (AAAI) • Institute of Electrical and Electronics Engineers Computer Society (IEEE) • International Emotion Research Society • IEEE Society on Social Implications of Technology

7. Honors and Awards:
- Keynote Speaker at the Affective Computing and Intelligent Interactions (ACII'13) International Conference, Geneva, SWITZERLAND. 2009
- Excellence in Teaching Award, School of Computing and Information Sciences, Florida International University. 2006
- Marie-Curie International Fellowship, European Commission. 2003
- Distinguished Research Lecturer Award, UCF College of Engineering and Computer Science. 2002
- Distributed Mentoring Affiliate Award, Computing Research Association-Women (CRA-W). 2000
- Nils Nilsson Award for Integrating AI Technologies, Association for the Advancement of Artificial Intelligence (AAAI). 2000 Technical Innovation Award, AAAI. 1997
- NIH Individual Research Service Award, National Institute of Health (NIH).

8. Service activities (within and outside of the institution):

• FIU – University Level: Member of FIU-Health Economics and Strategic Solutions; Dean Search Committee Engineering & Computing College (CEC) – College Level (CEC), FIU: Dissertation Advisory CEC Representative; Director Search Committee, School of Computer Science (SCIS), 2009-2010; Strategic Planning Think Tank Ad-Hoc Committee, CEC, 2009 -2010; Collegial Coordinator for Health Info. Initiative – Department Level, SCIS, FIU : Undergraduate Committee, 2013-2014;Faculty Advisor for Women In Computer Science (WICS) Student Association, 2007-Present; Faculty Search Committee, 2007-2013; Director Affective Social Computing Laboratory (ASCL), 2007-Present.

• Outside Institution – College Level: Research Incentive Award Program Committee,

UCF College Eng. & Computer Science, 2002-2003; Teaching Incentive Plan Award Criteria Committee, UCF, 2003; Affirmative Action Committee, USF College of Business Administration, 1999-2001 – Department Level: Jury Member of the Diplôme de Mastère Recherche (M2), Université de Nice - Sophia-Antipolis (UNSA), 2003-2007; Internship Program Academic Coordinator, ENST- Sophia-Antipolis, FRANCE, 2003; Coordinator Assistant for Multimedia Track, ENSTSophia, 2003; Communication Comm., ENST-Sophia, 2003; Coordinator Ph.D. Qualifier Examination, Dept. of Computer Science, College of Engineering and Computer Science, UCF, Spring 2003; Graduate Committee, UCF: 2001-2003; Undergraduate Foundation Examination Committee, UCF, 2002; Undergraduate Committee, College of Business Administration, USF, 2000-2001; Coordinator Course Intro. to Programming, USF, Fall 1998 - 2001.

9. Publications and Presentations: Selection from last 5 years:

- C. LeRouge, C. Lisetti, T. Malasanos (2015). Avatars and Virtual Coaches Requirements for Engaging Adolescents in a Computer Based Weight Management Program. J. American Medical Informatics Assoc., Jul 9.
- C. Lisetti, A. Amini, and U. Yasavur (2015). Now All Together: Overview of Virtual Health Assistants Emulating Face-to-Face Health Interview Experience. Kunstliche Intelligenz.
- R. Amini, C. L. Lisetti, and G. Ruiz (2015). HapFACS 3.0: Open-Source FACS-Based Facial Expression Generator for 3D speaking virtual characters. IEEE Trans. Affective Computing, Vol. 6(4), pp-348-360. –
- U. Yasavur, C. Lisetti and N. Rishe (2014). Lets talk! speaking virtual counselor offers you a brief intervention. J. Multimodal User Interfaces. Vol 8, pp 381398.
- C. L. Lisetti, R. Amini, U. Yasavur, and N. Rishe (2013). I Can Help You Change! An Empathic Virtual Agent Delivers Behavior Change Health Interventions. ACM Trans. Mgt. Info. Systems, Vol. 4, No. 4, 2013.

10. Professional development. N/A

1. **Name: Jason Liu** Rank: Associate Professor
Tenure-Status: Tenured

2. Degrees Held:

Ph.D. Dartmouth College (Hanover, NH), Computer Science, 2003
M.S. College of William & Mary (Williamsburg, VA), Computer Science, 2000
B.S. Beijing University of Technology (Beijing, China), Computer Science, 1993

3. Date of original appointment to this faculty, followed by dates and ranks of advancement:

2007-2011 Assistant Professor
2011-Current Associate Professor

4. Non-academic experience

Institute for Security Technology Studies, Dartmouth College, Research Scientist, 2003
Icon Technologies, China, Co-founder & Chief Computer Engineer, 1993-1994
Institute of Mathematics, China Academy of Science, Research Intern, 1993

5. Certifications

n/a

6. Current Member in Professional Organizations

Member of ACM, 2003-current.
Member of IEEE Computer Society, 2003-current.
Member of IEEE Communication Society, 2006-2009.

7. Honors and Awards

ACM Distinguished Scientist, 2014.
SIGSIM-PADS Best Paper Award, 2014.
CNS Best Paper Award, 2012.
NSF CAREER Award, 2006.
FIU 2010 Top Scholars in Research, 2010.

8. Service activities (within and outside of the institution)

Within FIU (during academic year 2015-2016):

- Faculty Governance Council, FIU College of Engineering and Computing

Outside FIU:

- Associate Editor, ACM Transactions on Modeling and Computer Simulation (TOMACS), Transactions of the Society for Modeling and Simulation International, and International Journal of Multimedia
- Steering Committee Member, ACM SIGSIM Conference on Principles of Advanced Discrete Simulation (SIGSIM-PADS)
- General Chair, PADS 2012, SIMUTools 2011, MASCOTS 2010

- Program Chair, SIMUTools 2010, PADS 2008

9. Publications and Presentations: 14 journals and 52 conference publications

Selected Publications:

1. Symbiotic network simulation and emulation. Miguel Erazo, Rong Rong, and Jason Liu. *ACM Transactions on Modeling and Computer Simulation (TOMACS)*, 26(1)-2, 2015.
2. Cluster-based spatio-temporal background traffic generation for network simulation. Ting Li and Jason Liu. *ACM Transactions on Modeling and Computer Simulation (TOMACS)*, 25(1), Article No. 4, 2014.
3. A rate-based TCP traffic model to accelerate network simulation. Ting Li, Nathanael Van Vorst, and Jason Liu, *Simulation: Transactions of the Society for Modeling and Simulation International*, 89(4):466-480, 2013.
4. OpenFlow-based flow-level bandwidth provisioning for CICQ switches. Hao Jin, Deng Pan, Jason Liu, and Niki Pissinou, *IEEE Transactions on Computers*, 62(9):1799-1812, 2013.
5. PrimoGENI for hybrid network simulation and emulation experiments in GENI. Nathanael Van Vorst, Miguel Erazo, and Jason Liu, Journal of Simulation, 6:179-192, 2012.
6. GPU-assisted hybrid network traffic model. Jason Liu, Yuan Liu, Zhihui Du, and Ting Li. In Proceedings of the 2014 ACM SIGSIM Conference on Principles of Advanced Discrete Simulation (SIGSIM-PADS), Denver, CO, May 2014, pp. 63-74.
7. Hierarchical composite synchronization. Jason Liu and Rong Rong, In Proceedings of the 26th Workshop on Principles of Advanced and Distributed Simulation (PADS 2012), Zhangjiajie, China, July 2012, pp. 3-12.
8. Realizing large-scale interactive network simulation via model splitting. Nathanael Van Vorst and Jason Liu, In Proceedings of the 26th Workshop on Principles of Advanced and Distributed Simulation (PADS 2012), Zhangjiajie, China, July 2012, pp. 120-129.
9. Toward comprehensive and accurate simulation performance prediction of parallel file systems. Miguel Erazo, Ting Li, Jason Liu and Stephan Eidenbenz, In Proceedings of the 42nd Annual IEEE/IFIP International Conference on Dependable Systems and Networks (DSN 2012), Boston, MA, June 2012, 12 pages.
10. How low can you go? Spherical routing for scalable network simulations. Nathanael Van Vorst, Ting Li, and Jason Liu, In Proceedings of the 19th Annual Meeting of the IEEE International Symposium on Modeling, Analysis and Simulation of Computer and Telecommunication Systems (MASCOTS 2011), Raffles Hotel, Singapore, July 2011, pp. 259-268.

10. Professional Development

n/a

1. Patricia McDermott-Wells **Rank: Instructor**
Tenure Status: Non-Tenure-Track

2. DEGREES HELD:

Degree	Institution	Field	Dates
PhD	Nova Southeastern Univ.	Computer Information Systems	2015
MS	University of Miami	Management Systems/ Operations Research	1979
BA	University of Miami	Mathematics	1977

3. EMPLOYMENT RECORD AT FIU:

Rank	Dates
Adjunct Instructor	2000-2006
Visiting Instructor	2006-2011
Adjunct Instructor (due to budget cuts)	2011-2012
Visiting Instructor	2012-2013
Instructor	2013-present

4. NON-ACADEMIC EXPERIENCE:

Place of Employment	Title	Dates
Mega-Data Services, Inc.	Senior Consultant	1986-present
Burroughs Corp. (now Unisys)	CSE Support Mgr	1978-1986

5. CERTIFICATIONS:
Microsoft Certified Partner firm, 1994-present
Microsoft Certified Professional: 16 individual subject certifications, including MCSA/MCSE)
Microsoft Certified System Engineer (NT 4.0, Windows 2000)

6. PROFESSIONAL ORGANIZATIONS:
ACM (2003-present)

7. HONORS AND AWARDS
SCIS Excellence in Teaching Award, 2013-2014
FIU Adjunct Faculty Excellence-in-Teaching Award, 2011-2012
Nominated for President's Award for Access & Diversity, FIU Service & Recognition Awards, 2010
Nominated for President's Award for Access & Diversity, FIU Service & Recognition Awards, 2009

8. SERVICE ACTIVITIES:
Faculty Liaison for Students in Technology, Academia, Research and Service (STARS) at FIU, Aug. 2012-present.

- FIU STARS is part of a multi-university NSF grant to provide leadership and technical skills training as well as mentoring, for women and minorities in STEM disciplines. We offer free tutoring to all FIU CS/IT majors, plus do outreach activities to K-12 schools in the Miami area.
- Administered part of a Google RISE grant in partnership with Georgia Tech: outreach webinars to Afro-American high school students taking the AP CS course.

Mentoring and Braille material preparation for FIU blind and visually impaired students taking Math, CS, or IT courses. Mentor to a Worlds Ahead Graduate Award recipient (Jorge Hernandez).

Member of Loxahatchee Groves, FL Community Emergency Response Team (CERT) – Point of Distribution (POD) Team; responsible for ad-hoc network and computer support in the event of a community disaster. (2005-present)

9. PUBLICATIONS AND PRESENTATIONS:

Patricia M. McDermott-Wells. 2015. *Math in the Dark: Tools for Expressing Mathematical Content by Visually Impaired Students*. Doctoral dissertation. Nova Southeastern University. Retrieved from NSUWorks, College of Engineering and Computing. (61) http://nsuworks.nova.edu/gscis_etd/61.

McDermott-Wells, P. M. (2006). Evaluation of Three Stylus-Based Text Input Methods on a Pocket PC Mobile Device. *Proceedings of IEEE SoutheastCon 2006 Conference*, Memphis, TN. March 30-April 2, 2006.

McDermott-Wells, P. M. (2004). What is Bluetooth? *IEEE Potentials* 23(5) 33-35. ***Ranked in top 10 most accessed articles in IEEE Potentials for December 2004, and top 100 in April 2005.*** (*http://amsc.tamu.edu/news/Most%20Downloaded%20Paper/toparticles.jsp.htm*)

McDermott-Wells, P. M. (2004). Bluetooth Scatternet Models. *IEEE Potentials*, 23(5) 36-39.

McDermott-Wells, P. M. (1996). Delivering Data to End-User PC Applications in Real Time: Using ODBC for MIS Productivity Gains. *Unisphere*, April 1996, 42-46.

McDermott-Wells, P.M. (1995). Customizing End-User Databases without Changing Mainframe Data. *Unisphere*, October 1995.

McDermott-Wells, P.M. (1995). Point and Click Your Way to Productivity Gains in MIS Using ODBC. *Unisphere*, September 1995, 66-69.

Unisys Users Group (CUBE/UNITE) Journal of Proceedings (1986 – 1996) – frequent presenter with publication of presentation papers of technical "How-To" sessions, in various venues (New Orleans, Las Vegas, Denver, Miami, Dallas).

PROFESSIONAL DEVELOPMENT:

- 2016 - Provost LA Initiative Faculty workshop, STEM Transformation Institute, FIU
- 2013 – Teaching High Enrollment Online Courses – Center for Advancement in Teaching, FIU
- 2006 - Pedagogies of Engagement for Freshman Interest Groups, Florida International University
- 2006 - Second Annual Summit on the First-Year Experience, Florida International University
- 1986 – 1996: Annual Burroughs User Group national meetings, as a presenter of technical how-to sessions
- 1994 – 2004: Annual VBITS/VS Live conference (Visual Basic Insiders Technical Summit/Visual Studio Live); three days of continuous technical sessions for software developers in the Windows arena

- 1994 – present: Various Microsoft events including Developer Days and private Partner training and events.
- 1994 – present: Numerous Microsoft training courses, including Windows 2000, Windows 2003, Visual Studio 6 and .NET, Windows Security, SQL Server database, MS Exchange, Security, etc.

1. **Name: Masoud Milani** Rank: Associate Professor
Tenure-Status: Tenured

2. Degrees Held:

Ph.D., Computer Science, University of Central Florida, Orlando, Florida, 1986.
M.S., Computer Science, Jackson State University, Jackson, Mississippi, 1980.
B.S., Computer Science, School of Planning and Computer Applications, Tehran, Iran, 1978.

3. Date of original appointment to this faculty, followed by dates and ranks of advancement:

Fall 1985, Assistant Professor
Fall 1991, Associate Professor

4. Non-academic experience

N/A

5. Certifications

N/A

6. Current Member in Professional Organizations

N/A

7. Honors and Awards

2014 PI, RET in Engineering and Computer Site: Nanotechnology Research Experiences for Teachers at FIU, National Science Foundation (EEC-1300711,1/1/2014 – 12/31/2016 $479,903.)

2012 PI, Motorola Summer PREP (Pre-college Enrichment and Preparation) Program, Motorola Solutions Foundation, $60,000.

2012 PI, FIU Summer Transportation Institute, Federal Highway Administration, (10/30/2012, 7/1/2012, $35,000)

2012 PI, FLAME: FLorida Action for Minorities in Engineering, Miami-Dade County Public Schools, $45,996.

2012 PI, ENLACE Miami, The Children's Trust, (1210-2040, 8/1/2012 – 7/31/2013, $454,679)

2011 Co-PI, Pathways to Success in STEM, Office of Naval Research (05/01/11–04/30/14, $638,537, PI: Dr. Laird Kramer)

2011 Co-PI, Building Partnerships and Pathways to Address the Foundational Grand Challenge for Engineering Education - Concrete Steps towards Broadening Participation, NSF, (ENG-1144852, 10/15/11-9/30/13, $75,000, PI: Dr. Amir Mirmiran)

2010 PI, GEAR UP South Dade Empowerment Zone, U.S. Department of Education, (P334A050047-10 , 9/1/2005 – 8/31/2011, $7,065,600).
This grant was transferred to me when I became the Director of the Center for Diversity in Engineering and Computing. (Previous PI: Dr. Berrin Tansel)

2009 Project Director, Graduate Assistance in Areas of National Need (GAANN), U.S. Department of Education, (P200A070543, 8/15/09-8/14/13, $522,624).

2006 PI, Research Experiences for Undergraduates: Autonomic Computing Research at FIU, NSF, (IIS-0552555, 2/15/06-1/31/09, $300,000).

2004 Co-PI, Computer Science, Engineering, and Mathematics Scholarships**,** NSF, (DUE-0422298, 8/15/04-7/31/08, $400,000, PI: Dr. Enrique Villamor).

1994 PI, Development of an Ada Based Two Semester Introductory Computer Science/Software Engineering Course and a Multi-Media Instructional Software. Defense Information Agency, $53,574.

1993 PI, Establishment of a Laboratory for Visual Programming Research. Air Force

Office of Scientific Research (AFOSR,) $70,492.

1991 PI, Development of a Prototype Automatic Program Differentiator, Center for Analysis and Prediction of Storms (an NSF Science and Technology Center,) $5,385.

1990 Co-PI, Generating Object-Oriented Syntax-Directed editors for Visual Languages, Florida High Technology and Industry Council, $19,500. (PI: Dr. F. Arefi)

1989 PI, Automatic Generation of Adjoint Models, Center for analysis and Prediction of Storms, (an NSF Science and Technology Center,) $18,430.

1988 Co-PI, Object-Oriented Software Engineering, Florida High Technology and Industry Council, $20,000. (PI: Dr. R. Ege).

8. Service activities (within and outside of the institution)

2010-2013 Director, the Center for Diversity in Engineering and Computing and Office of Student Access and Success, College of Engineering and Computing, Florida International University, Miami, Florida.

2005-2009 Associate Dean, School of Computing and Information Sciences, Florida International University, Miami, Florida.

9. Publications and Presentations

- **M. Milani**, S. Masoud Sadjadi, Raju Rangaswami, Peter J. Clarke, and Tao Li, "Research Experiences for Undergraduates: Autonomic Computing Research at FIU", 2009 Richard Tapia Celebration of Diversity in Computing conference, Portland, Oregon, USA, April 1–4, 2009.
- F. Arefi, **M. Milani** and Ch. Stary, "The Graph Editor of EdGen, a Tool to Aid the Automated Construction of Customized Graph Editors," *Proceedings of Seventh International Conference on Software Engineering*, (**SEKE95**,) San Francisco, June 1995.
- F. Arefi, **M. Milani** and Ch. Stary, "Bridging the Gap between Visual Design and Formal Specification," *proceedings of the Second Biennial European Joint Conference on Engineering Systems Design and Analysis* (**ESDA94,**) London, July 1994.
- F. Arefi, M. Evangelist and **M. Milani**, "A Test Bed for Experimenting with Visualization of Parallel Programming," *Proceedings of the International Conference on Massively Parallel Models: Suitability, Realization, Performance*, Berlin, May 1993.
- F. Arefi and **M. Milani,** "Generating Diagram-editors from Formal Specifications," Journal of Information and Software Technology, *vol*. 34, *no*. 3, 1992, pp139-146.
- **M. Milani,** "On the Descriptive Power of Simple Precedence Grammars," International Journal of Computer Mathematics, *vol*. 39, 1991, pp29-49.
- **M. Milani** and D. Workman**,** "Epsilon Weak Precedence Grammars and Languages," Theoretical Informatics and Applications, *vol*. 24, *no*. 3, 1990, pp241-266.
- F. Arefi, **M. Milani** and Ch. Stary, "Towards Customized User Interface Design Environments," *Proceedings of IEEE Workshop on Visual Languages*, Kobe, Japan, Oct. 1991.
- R. Ege, G. Fraguio, **M. Milani** and F. Arefi, "An Object-Oriented Design Environment," *Proceedings of the First International Conference on Technology of Object-Oriented Languages and systems* (Tools89,) Nov., 1989, Paris.
- **M. Milani** and R. Ege, "Language Support for Software Design Reuse, *" Proceedings of 27th Annual ACM Southeast Regional Conference*, Atlanta, April 1989.
- Chau, **M. Milani,** T. Berk and R. Ege**,** "IFE: An Interactive Formula Editor," *Proceedings of 27th Annual ACM Southeast Regional Conference*, Atlanta, April 1989.

10. Professional Development

CURRICULUM VITAE
GIRI NARASIMHAN

EDUCATION

DEGREE	DISCIPLINE	INSTITUTION	YEAR
B. Tech.	Electrical Engineering	Indian Institute of Technology, Bombay, India	1982
Ph. D.	Computer Science	University of Wisconsin - Madison	1989

❑ EXPERIENCE

RANK/POSITION	DEPARTMENT/DIVISION	INSTITUTION	PERIOD
Professor	School of Computer Science	Florida International University	From Fall 2004
Associate Dean, Research and Graduate Studies	College of Engineering & Computing	Florida International University	2009-2015
Visiting Scholar	Next Generation Sequencing	Strand Life Sciences	Jan-Apr 2009
Visiting Professor	Microbiology & Molecular Genetics	Harvard Medical School	Fall 2006
Visiting Researcher	IMAGEN-NICTA	National ICT Australia (NICTA)	Feb 2006
Associate Professor	School of Computer Science	Florida International University	2001-2004
Professor	Mathematical Sciences Department	University of Memphis	2001

❑ PROFESSIONAL MEMBERSHIPS & HONORS

- **Steering Committee, Biomedical Sciences Institute, Florida International University,** 2015-now.
- **Advisory Board, Biomedical Sciences Institute, Florida International University,** 2013-15**.**
- **Board of Directors, FIU Research Foundation, Inc.,** 2010-15.
- **FIU School of Computer Science "Best Research" Award,** 2007.
- **FIU Faculty Senate Award for Excellence in Research,** 2004.
- **FIU School of Computer Science "Best Research" Award,** 2004.
- **Superior Performance in University Research Award**, **University of Memphis**, 1995.
- **Editor, International Journal of Bioinformatics Research & Applications,** since 2007. [https://www.inderscience.com/browse/index.php?journalcode=ijbra]
- **Past Editorships:** Journal of Discrete Algorithms, Journal of Bionanoscience; International Journal of Experimental Algorithms
- **Member:** ACM, IEEE, ISCB

- PUBLICATIONS (Selected from 150+ publications)

1. **BOOK: Geometric Spanner Networks, Research Monograph. Authors: Giri Narasimhan and Michiel Smid; Cambridge University Press, 2007. [ISBN: 0521815134];**
2. **Fernandez, Aguiar-Pulido, Riveros, Huang, Segal, Zeng, Campos, Mathee, Narasimhan, "Microbiome Analysis: State-of-the-Art and Future Trends," In Computational Methods for Next Generation Sequencing Data Analysis, John Wiley and Sons, p333-351, 2015.**
3. **Gudmundsson, Narasimhan, Smid, "Geometric Spanners," In Encyclopedia of Algorithms, Ed.: M. Kao, In Press, Springer, ISBN: 978-3-642-27848-8, 2015.**
4. Gudmundsson, **Narasimhan**, Smid, "Applications of Geometric Spanners," In *Encyclopedia of Algorithms*, Ed.: M. Kao, In Press, Springer, ISBN: 978-3-642-27848-8, 2015.
5. Aguiar-Pulido, Suarez-Ulloa, Eirin-Lopez, Pereira, **Narasimhan**, "Computational Methods In Epigenetics," In *Personalized Epigenetics*, Springer, Ed.: T. Tollefsbol, Chapter 6, p153-180, 2015.
6. Aguiar-Pulido, Suarez-Ulloa, Huang, Cickovski, Mathee, **Narasimhan**, "Metagenomics, Metatranscriptomics and Metabolomics Approaches for Microbiome Analysis," *Evolutionary Bioinformatics*, In Press, 2015.
7. Fernandez, Riveros, Campos, Mathee, **Narasimhan**, "Microbial *Social* Networks," *BMC Genomics*, 16(Suppl 11):S6 (Special Issue), 2015.
8. Cickovski, Flor, Irving-Sachs, Novikov, Parda, **Narasimhan**, "GPUDePiCt: A Parallel Implementation of a Clustering Algorithms for Computing Degenerate Primers on Graphics Processing Units," *IEEE/ACM Transactions on Computational Biology and Bioinformatics*, **12**(2):445-454, 2015.
9. Caille, Zincke, Merighi, Balasubramanian, Kumari, Kong, Silva-Herzog, **Narasimhan**, Schneper, Lory, and Mathee, "Structural and functional characterization of Pseudomonas aeruginosa global regulator AmpR**,"** *J Bacteriology*, **196**(22):3890-3902, 2014.
10. Jaric, Segal, Silva-Herzog, Schneper, Mathee, **Narasimhan**, "Better primer design for metagenomic applications by increasing taxonomic distinguishability," BMC Proceedings, **7**(Suppl 7):S4, 2013; doi:10.1186/1753-6561-7-S7-S4.
11. Balasubramanian, Kumari, Jaric, Fernandez, Turner, Dove, **Narasimhan**, and Mathee, "Deep sequencing analyses expands the *Pseudomonas aeruginosa* AmpR regulon to include small RNA-mediated regulation of iron acquisition, heat-shock and the oxidative stress response**,"** *Nucleic Acids Research*, 2013, doi:10.1093/nar/gkt942.
12. Consuegra, Kumar, **Narasimhan**, "On the Uniqueness of Stable Marriage Matchings: A Correction," *Economics Letters*, *Economics Letters*, **121**(3):468, 2013.
13. Cattoir, **Narasimhan**, Skurnik, Aschard, Roux, Ramphal, Jyot, Lory, "Transcriptional response of mucoid *Pseudomonas aeruginosa* to human respiratory mucus," *mBio*, **3**(6):e00410-12, 2013.
14. Balasubramanian, Schneper, Merighi, Smith, **Narasimhan**, Lory, and Mathee, "The regulatory repertiore of *Pseudomonas aeruginosa* AmpC beta-lactamase regulator AmpR includes virulence genes**,"** *PLoS One*, **7**(3):e34067, 2012. doi:10.1371/journal.pone.0034067
15. Gudmundsson, Levcopoulos, **Narasimhan**, Smid, "Approximate Distance Oracles for Geometric Spanners," *ACM Transactions on Algorithms*, 4(1), Article 10, 2008.
16. Mathee, **Narasimhan**, Valdes, Qiu, Matewish, Koehrsen, Rokas, Yandava, Engels, Zeng, Olavarietta, Doud, Smith, Montgomery, White, Godfrey, Kodira, Birren, Galagan, Lory "Dynamics of *Pseudomonas aeruginosa* genome evolution," *Proceedings of the National Academy of Sciences*, **105**(8):3100-05, 2008. Reviews: (a) Highlighted by *Genome Technology Online*, Feb 20, 2008, "Survival through genome shapeshifting," and (b) Reviewed by *Faculty of 1000 Biology*.

1. **Name: Jainendra Navlakha** Rank: Professor
   Tenure-Status: Tenured

2. Degrees Held:

Institution	**Major/Area**	**Degree & Year**
Birla Institute of Technology & Science; India	Electronics Engineering	B.E. (Hons), Gold Medalist, 1972
Indian Institute of Technology; Kanpur, India	Electrical Eng. (Major – Computer Science)	M.Tech.
Case Western Reserve University; Cleveland, USA	Computer Science	Ph.D., 1977

3. Date of original appointment to this faculty, followed by dates and ranks of advancement:
   (All appointments at FIU)

   Assistant Professor (1978-82)
   Associate Professor (1982-87)
   Professor of Computer Science (1987-today)

   Associate Dean of Graduate Studies, College of Engineering & Computing (2006-2009)

   Director of Corporate and Global Programs, College of Engineering and Computing (2006-09)

   Director of School of Computing & Information Sciences (2009-2011, 1999-2002, 1988-1992)

4. Non-academic experience N/A

5. Certifications N/A

6. Current Member in Professional Organizations NONE

7. Honors and Awards

- Awarded Honorary Professorship, Universidad Nacional Daniel Alcides Carrion, School of Post Graduate Studies, Peru, Nov. 2007.
- Selected to be on the list of Fulbright Senior Scholar Specialists in Information Technology, 2004-2009.
- Fulbright Senior Scholar Assignment to Voronezh Institute of High Technologies, Voronezh, Russia, Oct. 2007.
- Appointed by Florida CFOs Mr. Tom Gallagher , Ms. Alex Sink, and Mr. Jeff Atwater to the Florida Commission on Hurricane Loss Projection Methodology as a Computer System Design expert – Spring 2005 - continuing
- Distinguished Visitor of IEEE Computer Society, 1985-1986.
- Selected to be an IEEE Distinguished Lecturer for South America, Nov.-Dec. 1984. Gave 8 presentations on "Program Verification" and "A survey of software complexity

metrics."

- Invited to be a member of the delegation of "Computer software specialists and engineers" to visit People's Republic of China, April-May 1983. Gave 3 presentations on "Program Verification."

8. Service activities (within and outside of the institution)

- Coordinator - SCIS Internal assessment
- Coordinator – ABET Review Preparations
- Member, Recruitment Committee for Instructor recruitment
- Chairperson, SCIS Tenure & Promotion Committee
- Member, Committee to develop MS in Cyber Security program

9. Publications and Presentations

1. "MADIS: A Multimedia-Aided Disaster Information Integration System for Emergency Management," (With Y. Yang, W. Lu, J. Domack, Tao Li, Shu-Ching Chen, S. Luis), 8th IEEE International Conference on Collaborative Computing: Networking, Applications and Worksharing (IEEE CollaborateCom 2012)
2. "Disaster SitRep - A Vertical Search Engine and Information Analysis Tool in Disaster Management Domain," (With Li Zheng, Chao Shen, Liang Tang, Tao Li, S. Luis, Shu-Ching Chen), 13th IEEE International Conference on Information Integration and Reuse (IRI 2012), Las Vegas, NV, USA
3. "Verification of programs with procedure-type parameters," (with G.W. Ernst and W.F. Ogden), Acta Informatica, Vol. 18, 1982, pp. 149-169
4. "A survey of system complexity metrics," Computer Journal, Vol. 30, No. 3, 1987, pp.233-238. Highlighted in Microprocessors and Microsystems, R&D Reports, Nov.1987, pp.506
5. "On choosing a software cost estimation model for your organization: A case study," Information and Management, Vol. 18, 1990, pp.255-261
6. "A new proof technique to establish equivalence of the original and the generated context free grammar with linear increase in size," BIT, Vol. 22, 1982, pp. 17-26
7. "An analytical technique for 3-dimensional interpolation," BIT, Vol. 24, 1984. pp. 119-122
8. "Finding the k-th largest element in a large heap in O(k log log n) time," Proc. of the 1982 conference on Information Sciences and systems, pp. 66-69
9. "Measuring the effect of external and internal interfaces on software development," Proc. of the 20th annual Hawaii international conference on system sciences, Jan. 1987, pp.127-137
10. "The Distribution of keys in a binary heap," (With Mark Weiss), Proceedings of Workshop on Algorithms and Data Structures, Springer Verlag Lecture Notes No. 382, 1989, pp.510-516

10. Professional Development N/A

1. **Name: Deng Pan** Rank: Associate Professor
Tenure-Status: Tenured

2. Degrees Held:
Ph.D. in Computer Science, State University of New York at Stony Brook, August 2007
M.S. in Computer Science, State University of New York at Stony Brook, July 2004
M.S. in Computer Science, Xi'an Jiaotong University, China, July 2002
B.S. in Computer Science, Xi'an Jiaotong University, China, July 1999

3. Date of original appointment to this faculty, followed by dates and ranks of advancement:
08/2013 – present Associate Professor, Florida International University
08/2007 – 08/2013 Assistant Professor, Florida International University

4. Non-academic experience
01/2006 – 01/2007 Internship, Symbol Technologies Inc., Holtsville, New York

5. Certifications
n/a

6. Current Member in Professional Organizations
2005 – present Member, Institute for Electrical and Electronics Engineers (IEEE)

7. Honors and Awards
n/a

8. Service activities (within and outside of the institution)
Program Committee Member, IEEE International Conference on Computer Communications (INFOCOM), 2011-2016
Local Arrangement Co-Chair, IEEE International Conference on Networking, Sensing and Control (ICNSC), 2014
Program Committee Member, IEEE Global Communications Conference (GLOBECOM), 2011
Chair, College Curriculum Committee, FIU, 2014-2015
Member, College Curriculum Committee, FIU, 2013-2014
Member, Graduate Committee, SCIS, 2014-2016

9. Publications and Presentations
W. Ma, C. Medina, and D. Pan, ``Traffic-Aware Placement of NFV Middleboxes," IEEE Global Communications Conference (GLOBECOM), San Diego, CA, Dec. 2015.

E. Jo, L. Butler, D. Pan, and J. Liu, ``A simulation and emulation study of SDN-based multipath routing for fat-tree data center networks," Winter Simulation Conference (WSC), Savannah, GA, Dec. 2014.

O. Fatmi and D. Pan, ``Distributed multipath routing for data center networks based on stochastic traffic modeling," IEEE International Conference on Networking, Sensing and Control (ICNSC), Miami, FL, Apr. 2014.

H. Jin, D. Pan, J. Liu, and N. Pissinou, ``OpenFlow based flow level bandwidth provisioning for CICQ switches," IEEE Transactions on Computers, vol. 62, no. 9, pp. 1799-1812, Sep. 2013.

H. Jin, T. Cheocherngngarn, D. Levy, A. Smith, D. Pan, J. Liu, and N. Pissinou, ``Joint host-network optimization for energy-efficient data center networking," IEEE International Parallel and Distributed Processing Symposium (IPDPS), Boston, MA, May 2013.

H. Jin, D. Pan, J. Xu, and N. Pissinou, ``Efficient VM placement with multiple deterministic and stochastic resources in data centers," IEEE Global Communications Conference (GLOBECOM), Anaheim, CA, Dec. 2012.

T. Cheocherngngarn, H. Jin, J. Andrian, D. Pan, and J. Liu, ``Depth-first worst-fit search based multipath routing for data center networks," IEEE Global Communications Conference (GLOBECOM), Anaheim, CA, Dec. 2012.

D. Pan and Y. Yang, ``Flow based performance guarantee scheduling in buffered crossbar switches," IEEE Transactions on Communications, vol. 60, no. 12, pp. 3836-3843, Dec. 2012.

X. Jin, N. Pissinou, C. Chesneau, S. Pumpichet, and D. Pan, ``Hiding trajectory on the fly," IEEE International Conference on Communications (ICC), Ottawa, Canada, Jun. 2012.

S. Pumpichet, N. Pissinou, X. Jin, and D. Pan, ``Belief-based cleaning in trajectory sensor streams," IEEE International Conference on Communications (ICC), Ottawa, Canada, Jun. 2012.

H. Jin, D. Pan, and N. Pissinou, ``Parallel packet switch without segmentation-and-reassembly," IEEE Global Communications Conference (GLOBECOM), Houston, TX, Dec. 2011.

T. Cheocherngngarn, J. Andrian, Z. Yang, and D. Pan, ``Queue-length proportional and max-min fair bandwidth allocation for best effort flows," IEEE Global Communications Conference (GLOBECOM), Houston, TX, Dec. 2011.

A. Bhattacharya, Z. Yang, and D. Pan, ``Popularity awareness in temporal-DHT for P2P-based media streaming applications," IEEE International Symposium on Multimedia (ISM), Dana Point, CA, Dec. 2011.

H. Jin, D. Pan, J. Liu, and N. Pissinou, ``OpenFlow based flow level bandwidth provisioning for CICQ switches," IEEE International Conference on Computer Communications (INFOCOM) Mini-Conference, Shanghai, China, Apr. 2011.

10. Professional Development
n/a

1. **Name: Alexander Pelin** Rank: Associate Professor
Tenure-Status: Tenured

2. Degrees Held: Ph.D. in Computer and Information Science

3. Date of original appointment to this faculty, followed by dates and ranks of advancement:
1985, hired as Associate Professor, no advancement

4. Non-academic experience: None

5. Certifications None

6. Current Member in Professional Organizations
ACM, ASL, AMA

7. Honors and Awards
Fulbright Scholarship, 1971-1973

8. Service activities (within and outside of the institution)
Various school committees, no outside activity

9. Publications and Presentations
None during the last 2 years

10. Professional Development
I attended the SE Conference on Graph Theory.

1. **Name: Norman Pestaina** **Rank**: Senior Instructor
Tenure-Status: Non-Tenure-Track

2. Degrees Held:

Degree	Field	Institution	Date
BSc	Mathematics	University of the West Indies	August 1972
MS	Computer Science	Pennsylvania State University	August 1979

3. Date of original appointment to this faculty, followed by dates and ranks of advancement:

Title	Dates Held
Visiting Instructor	August 1984 – August 1985
Instructor	August 1985 – August 2011
Senior Instructor	August 2011 - present

4. Non-academic experience

Dates	Agency	Project
Aug. 1979 – Dec. 1980	MIT Lincoln Laboratory Bedford, MA	Assistant Staff (Programmer), Radar Signature Studies Group
Jun. 2000 – Jun, 2015	Educational Testing Services Princeton, NJ	Reader and Question Leader AP Computer Science A Exam

5. Certifications
None.
6. Current Member in Professional Organizations
None.
7. Honors and Awards
- SCIS Excellence in Teaching Award, 2011, 2007, 2004
- FIU Teaching Incentive Program Award, 1994
- SCS Outstanding Achievement and Performance Award, 2009

8. Service activities (within and outside of the institution)
- SCIS Undergraduate Committee member, 2000 - 2016
- SCIS Non-tenure-track Hiring Committee member, 2013 - 2016
- SCIS Computer Programming Subject Area Coordinator, 2013 - 2016
- SCIS ABET Assessments & Accreditation Coordinator, 2003 - 2013

9. Publications and Presentations
- Paper Published: 2014 ASEE Annual Conference, Indianapolis IN
Assessing BS–CS Student Outcomes Using Senior Project
Mr. Norman Pestaina, Ms. Tiana Solis, Dr. Peter J. Clarke
(Florida International University)

10. Professional Development
- Reader or Question Leader, Advanced Placement Computer Science A Exam
2000 - 2015
- ACM SIGCSE Symposium 2011, 2007, 2006, 2003, 2001, 1999, 1998
- NSF supported Workshop, 2010, Florida International University
Integrating Software Testing into Programming Courses (WISTPC 10)

1. **Name: Niki Pissinou** Rank: Eminent Scholar Chaired Professor
Tenure-Status: Tenured

2. Degrees Held:
Ph.D. University of Southern California, Computer Science, 1991
M.S. University of Southern California, Computer Science, 1986
B.S. Ohio State University, Industrial and Systems Engineering, 1981

3. Date of original appointment to this faculty, followed by dates and ranks of advancement:
2000 Professor, 2014 Eminent Scholar Chaired Professor

4. Non-academic experience
N/A

5. Certifications
N/A

6. Current Member in Professional Organizations
N/A

7. Honors and Awards
N/A

8. Service activities (within and outside of the institution)
IT2 Director, General Chair, Program Chair, Program Committee and other significant professional activities of over 300 IEEE/ACM conferences including Editor, Associate Editor: GeoInformatica, IEEE Transactions on Knowledge and Data Engineering (1997-2001), International Journal of Tools with AI. General & Program Chair, ACM Conf. on Information & Knowledge Management, IEEE International Conference on Computer Communications and Networks, INFOCOM, IEEE HealthCom 2015, ICCVE2015, IEEE 2015 WCNC, others. Organizing Committees, ACM Sigmod 2005, IEEE Globecom 2011, others. Review Panels: National Science Foundation 1993-2011, NASA, Army Research Lab, Australian Research Council. DoD, etc

9. Publications and Presentations

- Charles Kamhoua, Niki Pissinou, Kia Makki "Game Theoretic Modeling and Evolution of Trust Autonomous Multi-hop Networks: Application to Network Security and Privacy" in proceedings of the IEEE international conference on communications (IEEE ICC 2011). Kyoto, Japan. June 2011
- Bogdan Carbunar, Mahmudur Rahman, Niki Pissinou: A Survey of privacy vulnerabilities and defenses in geosocial networks. IEEE Communications Magazine 51(11): 114-119(2013)
- Garth V. Crosby, Lance Hester, Niki Pissinou, Trust-based Detection and Isolation of Compromised Nodes in Wireless Sensor Networks, J. Network Security, 2011
- Xinyu Jin, Niki Pissinou, Sitthapon Pumpichet, Charles A. Kamhoua, Kevin A. Kwiat: Modeling cooperative, selfish and malicious behaviors for Trajectory Privacy Preservation using Bayesian game theory. LCN 2013:835-842
- Charles A. Kamhoua, Niki Pissinou, Kia Makki, Kevin A. Kwiat, S. Sitharama Iyengar: Game theoretic analysis of users and providers behavior in network under scarce resources. ICNC 2012: 1149-1155

- Liu, Jia, Wan, Yi, Makki and Pissinou, Maximizing Lifetime of Sensor Surveillance Systems, IEEE/ACM Transactions on Networking, 15(2):, 2007
- Charles Kamhoua, Niki Pissinou, Alan Busovaca, Kia Makki "Belief-free Equilibrium of Packet Forwarding Game in Ad Hoc Networks under Imperfect Monitoring" in proceedings of the 29th IEEE international performance computing and communications conference (IEEE IPCCC), 33 41-50, Albuquerque, New Mexico, USA. December 2010.
- Pumpichet, Pissinou et. Al., Hiding Trajectory on the Fly, ICC 2012: 403-407 Sitthapon Punpichet, Niki Pissinou, Virtual Sensor for Mobile Sensor Data Cleaning, Conference Name Proceedings of the 53rd IEEE Global Communications Conference, Dec. 2010
- Hao Jin, Deng Pan, Jason Liu, Niki Pissinou, Open Flow based Flow Level Bandwidth Provisioning for CICQ Switches Conference Name Proceedings of the 30th IEEE International Conference on Computer Communications (IEEE INFOCOM 2011), China April 2013.

10. Professional Development
N/A

1. Name: Nagarajan Prabakar Rank: Associate Professor
Tenure-Status: Tenured

2. Degrees Held: Ph.D. in Computer Science

3. Date of original appointment to this faculty, followed by dates and ranks of advancement:

Visiting Assistant Professor	Aug 1984 – Aug 1985
Assistant Professor	Aug 1985 – Aug 1991
Associate Professor	Aug 1991 - present

4. Non-academic experience

Assistant Executive Engineer, Indian Telephone Industries, Bangalore	Nov 1979 – Jul 1981

5. Certifications: N/A

6. Current Member in Professional Organizations: N/A

7. Honors and Awards
   - Excellence in Service Award, College of Engineering and Computing, FIU, 2012
   - Excellence in Service Award, School of Computing and Information Sciences, 2011
   - Teaching Incentive Program Award at Florida International University, 1995
   - University of Queensland M.I.M. Holdings Ltd. prize for attaining the highest level of academic achievement in Computer Science Postgraduate Studies, 1982 and 1984
   - University of Queensland Postgraduate Research Scholarship, 1981 - 1984
   - Gold medal for securing the first rank in B.E. at Annamalai University, 1977

8. Service activities (within and outside of the institution)

Subject area coordinator: 2003 - present
Responsible to review and revise the syllabi, update textbooks, and review instructor evaluations & students' feedback, and write assessment summary for the courses.

IT Database area (COP-4703, CTS-4408, COP-4722)
IT Systems area (CGS-3767, COP-3348, COP-4343)
CS Computer organization area (CDA-3103, CDA-4101, COP-4610)

Undergraduate Committee Chair: 2006 – 2012, 2014 – present
Responsible for the undergraduate curriculum of both Computer Science and Information Technology programs including review of new courses, degree programs, and dependencies among courses, and make recommendations on assessment reports.

Instructor Recruitment Committee Chair: 2012 – present
Evaluate twenty applicants, conduct online and on-campus interviews for selected applicants, and make a recommendation of ranked list of candidates for instructor positions.

College Curriculum Committee Chair: 2010 – 2013
Created a web site for the College Curriculum Committee and streamlined the meeting process. Further, this enabled transparency of the entire committee operations (documents, minutes, resolutions) for the entire college and drastically cut down the number of paper

copies made for the meetings.

University Curriculum Committee Chair: 2010 – 2012

- Designed curriculum bulletin calendars for 2011-2012 and 2012-2013.
- For each university curriculum bulletin,
  - Reviewed all UG and grad curriculum proposals
  - Scheduled hearing for all new programs/majors/tracks
  - Chaired the hearing and coordinated revisions to proposals
  - Presented curriculum related motions at the senate meetings
- Initiated the Paperless Curriculum Project in coordination with the Vice Provost of Academic Planning, UTS IT Specialist, Faculty Senate Administrative Assistant, and Registrar Coordinator.

Faculty Senator: 2011 – 2013

Represented the faculty of College of Engineering and Computing at the Faculty Senate.

9. Publications and Presentations

- J-H Kim, G. Sharma, N. Boudriga, S.S. Iyengar, and **N. Prabakar**: 'Autonomous pipeline monitoring and maintenance system: a RFID-based approach', *Springer Open: EURASIP Journal on Wireless Communications and Networking*, 2015:262, 10.1186/s13638-015-0495-y, http://www.jwcn.eurasipjournals.com/content/2015/1/262 2015.
- **N. Prabakar**, C. Tope, and J-H Kim: 'A Smart Multi Telepresence Robot Management System'. *Proceedings of the 2013 World Congress on Advances in Nano, Biomechanics, Robotics, and Energy Research (ANBRE13),* Seoul, Korea, pp. 43-51, August 25-28, 2013.
- U. Cerron, **N. Prabakar**, and J-H Kim: 'A Framework for Affordable Telemedicine Service'. *Proceedings of the 29th Southern Biomedical Engineering Conference (SBEC)*, Miami, pp. 171-172, May 3-5, 2013.
- **N. Prabakar**, J. Kim, U. Cerron, and S.S. Iyengar: 'Sensor Network Based Parking Management System'. *Proceedings of the 4th International Conference on Sensor Networks and Applications*, New Orleans, pp. 181-185, November 2012.
- G. Paschos, I. Radev, and **N. Prabakar**: 'Image Content-Based Retrieval Using Chromaticity Moments'. *IEEE Trans. on Knowledge and Data Engg.* Vol. 15, No. 5, pp. 1069-1072, 2003.

10. Professional Development

N/A

1. **Name: Raju Rangaswami** Rank: Associate Professor
Tenure-Status: Tenured

2. Degrees Held:

B. Tech.	– CS	IIT, Kharagpur, India
M. S.	– CS	University of California, Santa Barbara
PhD	– CS	University of California, Santa Barbara

3. Date of original appointment to this faculty, followed by dates and ranks of advancement:
Assistant professor – SCIS, FIU – 2004 - 2009
Associate Professor – SCIS, FIU – 2009 - present

4. Non-academic experience: N/A

5. Certifications: NONE

6. Current Member in Professional Organizations: N/A

7. Honors and Awards:

- NetApp Faculty Fellowship, 2016.
- ICAC'15 Best Paper Award, 2015.
- Intel URO Award, 2013.
- NetApp Faculty Fellowship, 2013.
- Charter Member, National Academy of Inventors, 2012.
- FIU Faculty Award for Excellence in Research and Creative Activities, 2011.
- IBM Faculty Award, 2011.
- NetApp Faculty Fellowship, 2011.
- USENIX FAST'10 Fast-Tracked paper, 2010.
- FIU Top Scholar, 2010.
- NSF CAREER Award, 2008-2013.
- FIU Excellence in Faculty Scholarship, 2008.
- Excellence in Research Award, School of Computing and Information Sciences, FIU, 2008.
- Department of Energy Early CAREER (ECPI) Award, 2006-2009.
- University of California Dissertation Fellowship, 2004.
- Dean's Fellowship, UCSB, 1999

8. Service activities (within and outside of the institution)
Selected Activities Outside the institution:

- Steering Committee Member, USENIX Workshop on Hot Topics in Storage and File Systems (HotStorage), since 2012.
- Editorial Board, Springer Journal of Distributed and Parallel Databases, since 2014.
- NSF Panelist: 2005-2007, 2009, 2010, 2012, 2015.

- Program Chair, USENIX Workshop on Hot Topics in Storage and File Systems (HotStorage), 2012
- Program Chair, IEEE International Workshop on Storage Network Architecture and Parallel I/O (SNAPI), 2011
- Publicity Co-chair, IEEE Real-Time and Embedded Technology and Applications Symposium (RTAS), 2007.
- Demonstration Co-chair, ACM Multimedia, 2006.
- Program Committees:
    - USENIX Workshop on Hot Topics in Storage and File Systems (HotStorage), 2015
    - IEEE 23nd International Symposium on Modeling, Analysis and Simulation of Computer and Telecommunication Systems (Mascots), 2015
    - ACM International Symposium on High-Performance Parallel and Distributed Computing (HPDC), 2015
    - USENIX Conference on File and Storage Technologies (FAST), 2015

Selected Activities Within the institution:

- Chairperson, SCIS Recruitment Committee
- LOTS OF OTHER ACTIVITIES

9. [Selected Recent] Publications and Presentations:

a) A Fast and Slippery Slope for File Systems, INFLOW 2015
b) To ARC or not to ARC, HotStorage 2015
c) NVMKV: A Scalable, Lightweight, FTL-aware Key-Value Store, ATC 2015
d) Centaur: Host-side SSD Caching for Storage Performance Control, ICAC 2015 **Best Paper Award**
e) Revenue Driven Resource Allocation for Virtualized Data Centers, ICAC 2015
f) Non-blocking Writes to Files, FAST 2015
g) NVMKV: A Scalable and Lightweight Flash Aware Key-Value Store, HotStorage 2014
h) Write Policies for Host-side Flash Caches, FAST 2013
i) Software Persistent Memory, ATC 2012
j) Modeling Virtualized Applications using Machine Learning Techniques, VEE 2012
k) Truly Non-blocking Writes, HotStorage 2011
l) Cost Effective Storage using Extent Based Dynamic Tiering, FAST 2011
m) Generalized ERSS Tree Model: Revisiting Working Sets, Performance 2010
n) Anatomy of a Real-time Intrusion Prevention System, ICAC 2008

10. Professional Development

Sabbatical Leave – Full Academic Year – 2015-2016

Name: Naphtali Rishe Rank: Professor
Tenure-Status: Tenured

2. Degrees Held:
- B.Sc., Summa Cum Laude, Computer Science, Israel Institute of Technology (Technion), 1975-1979
- M.Sc., Thesis: On Formal Semantics of Data Bases, Computer Science, Israel Institute of Technology (Technion), 1979-1981
- Ph.D., Dissertation: Semantics of Universal Languages and Information Structures in Data Bases, Computer Science, Tel Aviv University, 1981-1984

3. Date of original appointment to this faculty, followed by dates and ranks of advancement:
- Associate Professor (1987-92), tenured in 1990
- Professor of Computer Science (1992-)
- Outstanding University Professor (2000-)

4. Non-academic experience
- Eight years of industrial and governmental employment as head of software and database projects.

5. Certifications
- N/A

6. Current Member in Professional Organizations
- IEEE, ACM, AAAS

7. Honors and Awards
- The first recipient of the Outstanding FIU Faculty Award (2000) for performance in education, research, and service.

8. Service activities (within and outside of the institution)
- Among the nation's leading producers of minority PhDs; Rishe's graduates included two Hispanics and two Asians who became computer science professors, an African-American woman who has authored four successful database books, and five PhDs recruited to senior positions at Microsoft.
- Directs NSF Industry/University Cooperative Research Center for Advanced Knowledge Enablement at Florida International and Florida Atlantic Universities. Directs NSF Center of Research Excellence in Science and Technology at FIU.

9. Publications and Presentations – selected from over 300 peer-reviewed publications
- Bryant Aaron, Dan E. Tamir, Naphtali D. Rishe, Abraham Kandel. "Dynamic Incremental Fuzzy C-Mean Clustering". Proceedings of The Sixth International Conferences on Pervasive Patterns and Applications (PATTERNS'14). Venice, Italy. May 25-29, 2014. Best Paper Award. pp.28-37. This paper includes Fuzzy Logic analysis of TerraFly aerial imagery of Sweetwater and Oleta Park
- "Yelp Events: Making Bricks Without Clay?". Proceedings of the 2013 HotPOST Workshop at the 33rd International Conference on Distributed Computing Systems (ICDCS 2013). Philadelphia, USA. July 2013. Best Paper Award of ICDCS-2013. (With Ballesteros, Carbunar, Rahman.)

- Dan E. Tamir, Naphtali D.Rishe, Abraham Kandel. "Fifty Years of Fuzzy Logic and its Applications". Springer Series, Studies in Fuzziness and Soft Computing. Springer International Publishing, Switzerland 2015. DOI 10.1007/978-3-319-19683-1. Hardcover book 684 pages, ISBN 978-3319196824.
- Thomas F. Gustafson, Naphtali Rishe, Ramon Trias, Kenneth Stapleton. U.S. Patent 8915669. Issued 12/23/2014. "Cross Street Transit and Multimodal Multi-Level Station and Pedestrian-Oriented Interchange."
- Yun Lu, Ming Zhao, Lixi Wang, Naphtali Rishe. "v-TerraFly: Large Scale Distributed Spatial Data Visualization with Autonomic Resource Management". Springer Journal Of Big Data. 2014, 1:4. 19 pp. DOI: 10.1186/2196-1115-1-4
- Francisco R. Ortega, Fatemeh Abyarjoo, Armando Barreto, Naphtali Rishe, Malek Adjouadi. "Interaction Design for 3D User Interfaces: The World of Modern Input Devices for Research, Applications, and Game Development". CRC Press, 2015, hardcover book 788 pages, ISBN 978-1482216943
- "Thermal Imaging as a Biometrics Approach to Facial Signature Authentication". IEEE Journal of Biomedical and Health Informatics, Vol. 17, No. 1, January 2013. pp. 214-222. (With Guzman, Goryawala, Wang, Barreto, Andrian, Adjouadi.)
- "Interaction with 3D Environments using Multi-Touch Screens." Lecture Notes in Electrical Engineering, Vol. 152, Springer Verlag 2013, pp. 381-392. (With Ortega, Barreto, Adjouadi.)
- "Metabolic profiling in personalized medicine: bridging the gap between knowledge and clinical practice in Type 2 diabetes." Journal of Personalized Medicine, Vol. 8, No. 4, July 2011, pp. 445-456. (With Zolotov, Ben Yosef, Yesha, Karnieli.)
- Database Design: The Semantic Modeling Approach. McGraw-Hill, 1992, 528 pp.

10. Professional Development

- Rishe leads the TerraFly public service disseminating geospatial data. TerraFly has been featured on TV news programs including in FOX News worldwide broadcast, worldwide press, covered by the New York Times, USA Today, NPR, and Science and Nature journals. TerraFly is among the 120 NSF projects in the 2010 NSF Annual Report and Budget Request to Congress. TerraFly is on the cover of 2014 NSF Annual Compendium of I/UCRC Technology Breakthroughs.
- Inventor of 4 U.S. patents, Author of 300 refereed papers, the P.I. of over $50M in grants (including over $20M from NSF and $11M from DOT).

1. **Name: Seyed Masoud Sadjadi** Rank: Associate Professor
Tenure-Status: Tenured

2. Degrees Held:
- University of Tehran, Computer Hardware Engineering, B.S. (1995).
- Tehran Azad University, Computer Software Engineering, M.S. (1999).
- Michigan State University, Computer Science, Ph.D. (2004).

3. Date of original appointment to this faculty, followed by dates and ranks of advancement:
- 2014-present, Director of Professional Masters of Science in Information Technology (Prof. MSIT), School of Computing and Information Sciences (SCIS), Florida International University (FIU).
- 2010-present, Associate Professor of Computer Science, SCIS, FIU.
- 2004-2010, Assistant Professor of Computer Science, SCIS, FIU.

4. Non-academic experience
- 1996-1999, Project Manager, Iran University Press, Tehran, Iran.
- 1992-1995, Software Developer & Founder, Tebb Va Rayaneh Corporation, Tehran, Iran

5. Certifications
- N/A

6. Current Member in Professional Organizations
- IEEE

7. Honors and Awards
- Helmsley/GeorgiaTech award for implementing Vertically Integrated Projects (VIP) at FIU for ~$270,000, 2015-2017.
- Helmsley/GeorgiaTech supplement award for expanding Vertically Integrated Projects (VIP) to other colleges at FIU for $20,000, 2016.
- IBM Faculty Award in 2011 and 2013.
- Recipient of the First TeraGrid Pathway Fellowship for the pioneering work on the Grid Enablement of Scientific Applications on TeraGrid, 2009.
- Excellence in Mentoring Award, School of Computing and Information Sciences, Florida International University, 2007.
- IBM Shared University Research (SUR) Award, 2005.
- IWQoS 2004 Best Student Paper Award, the Twelfth IEEE International Workshop on Quality of Service (IWQoS 2004), Montreal, Canada, 2004.
- Outstanding Graduate Student Award, Department of Computer Science and Engineering, Michigan State University, 2004.
- Highest Score in 2001 Qualifying Examination, Department of Computer Science and Engineering, Michigan State University, 2001.

8. Service activities (within and outside of the institution)
- Outside the institution
    - Served in three National Science Foundation (NSF) panels in 2015-16
    - Journal Editorial Board Member: Software Engineering and Knowledge Engineering, IJSEKE, 2015 & 2016.
    - A member of our Mexican Group of Semantic Web Techniques, 2016.

- Interviewed with NBC6 on "Online Diploma! How to determine if a Website is legitimate?" This interview was aired a number of times at NBC6 news.
- Steering Committee Member for LA Grid, 2006.
- Chapter Review: Cloud Computing for Cambridge University Press, 2015.
- Program Committee Member for the International Conference on Software Engineering and Knowledge Engineering (SEKE), 2015 & 2016.
- Program Committee Member for the IEEE DSDIS 2015 (Data Science and Data Intensive Systems).

- Inside the Institution
  - Advisor for the Iranian Students Organization group at FIU, 2015 & 2016.
  - Chair for the Professional MSIT committee, 2015 & 2016.
  - External member of the Faculty Search Committee for the Electrical and Computer Engineering department of College of Computing and Engineering, 2015 & 2016.
  - Software Engineering Area Coordinator of Undergraduate CS Program Assessment, 2015 & 2016.
  - Committee member for developing the proposal for Master of Science in Data Science, 2015 & 2016.
  - Chair of the SCIS Software Engineering Course Subcommittee, 2015 & 2016.

9. Publications and Presentations

- M.Taheri, SM.Sadjadi, "A Comparative Study on Cloud-based Agile Tools" 24th International Conference on Software Engineering and Data Engineering (SEDE) 12-15 October 2015, San Diego, California, USA.
- Mohsen Taheri and S. Masoud Sadjadi, A Feature-Based Tool-Selection Classification for Agile Software Development, in the Proceedings of the 2015 International Conference on Software Engineering and Knowledge Engineering, Pittsburgh, USA, 2015.
- Onyeka Ezenwoye, S. Masoud Sadjadi, and Wei Wang, Modeling and Simulating Reconfigurable Networked Service Composites, In the Proceedings of the 12th IEEE International Conference on Services Computing (SCC 2015), New York, USA, 2015.

10. Professional Development

- Studied Data Science programs nationwide to be able to contribute to the development of a new MS degree in Data Science at our school.
- Studied new Agile Software Processes, such as Scrum, and practiced them in senior project and class room settings to make sure that our students are knowledgeable in this area when they graduate from our undergraduate program.
- Studied VIP programs funded by the Helmsley Foundation to be able to replicate a similar program at FIU that fits our faculty and students' needs.

1. **Name: Shaw, Gregory** Rank: Senior Instructor
Tenure-Status: Non-Tenure-Track

2. Degrees Held: B.S., Computer Science, FIU, 1982
M.S., Computer Education, Barry U., 1992

3. Date of original appointment to this faculty, followed by dates and ranks of advancement:

Adjunct Instructor	1983
Visiting Instructor	1985-1989, 1995
Instructor	1996-2014
Senior Instructor	2014

4. Non-academic experience

FORTRAN programmer, part-time

5. Certifications None

6. Current Member in Professional Organizations None

7. Honors and Awards

Florida International University Faculty Teaching Award, 2003

8. Service activities (within and outside of the institution)

For the past several years – other than the current one – supervised 4 graduate Teaching Assistants and 2 undergrad Learning Assistants each semester

9. Publications and Presentations None

10. Professional Development SIG-CSE, 1998

1. **Name: Geoffrey Smith** Rank: Professor
Tenure-Status: Tenured

2. Degrees Held:
- PhD, Computer Science, Cornell, 1991
- MS, Computer Science, Cornell, 1986
- BA, Mathematics and Computer Science, Brandeis, 1982

3. Date of original appointment to this faculty, followed by dates and ranks of advancement:
- August 1999, Assistant Professor
- August 2002, Associate Professor
- August 2015, Professor

4. Non-academic experience
- None.

5. Certifications
- None.

6. Current Member in Professional Organizations
- ACM
- IFIP Working Group 1.7
- INRIA Associate Team PRINCESS

7. Honors and Awards
- Selected as an FIU Top Scholar in 2016
- Winner of NSA's 3rd annual Best Scientific Cybersecurity Paper competition, 2015
- Invited Tutorial at LICS/ICALP, 2015
- Unifying Invited Speaker, ETAPS, 2014
- ACM Distinguished Scientist, 2013

8. Service activities (within and outside of the institution)
- FIU's representative to SUS Advisory Council for Florida Center for Cybersecurity
- Led development of FIU's MS-Cybersecurity program
- SCIS Human Resources Committee
- SCIS Undergraduate Committee
- Program Committee member: *POST 2017: 6th International Conference on Principles of Security and Trust*; *CSF 2016: 29th IEEE Computer Security Foundations Symposium*; *HotSpot 2016: 4th Workshop on Hot Issues in Security Principles and Trust*; *HotSpot 2015*; *CONCUR 2013: 24th International Conference on Concurrency Theory*; *FORTE/FMOODS 2013: IFIP Joint International Conference on Formal Techniques for Distributed Systems*; *ESOP 2013: 22nd European Symposium on Programming*.
- Guest Editor (with Catuscia Palamidessi and Miguel Andrés) of *Mathematical Structures in Computer Science*, Special Issue on Quantitative Information Flow, 25:2, 2015.
- Reviewer of Michela Paolini's dissertation, "Information-Theoretical Models of Confidentiality and Privacy", at IMT Institute for Advanced Studies, Lucca, Italy, 2014.
- Steering Committee member: *POST (Principles of Security and Trust)*, since 2014.
- Opponent at the defense of Filippo del Tedesco's dissertation, "An information flow

approach to fault-tolerant security and information erasure", at Chalmers University of Technology, Gothenburg, Sweden, 2014.

9. Publications and Presentations

- "Recent Developments in Quantitative Information Flow", LICS/ICALP 2015 Invited Tutorial, Kyoto, Japan, July 2015.
- Mário S. Alvim, Kostas Chatzikokolakis, Annabelle McIver, Carroll Morgan, Catuscia Palamidessi, and Geoffrey Smith, "Additive and multiplicative notions of leakage, and their capacities", in *Proc. CSF 2014: 27th IEEE Computer Security Foundations Symposium*, pp. 308–322, Vienna, Austria, July 2014. **Winner of NSA's 3rd annual Best Scientific Cybersecurity Paper competition.**
- Annabelle McIver, Carroll Morgan, Geoffrey Smith, Barbara Espinoza, and Larissa Meinicke, "Abstract Channels and their Robust Information-Leakage Ordering", in *Proc. POST 2014: 3rd Conference on Principles of Security and Trust*, pp. 83–102, Grenoble, France, April 2014. **ETAPS Best Paper nominee.**
- "Operational Significance and Robustness in Quantitative Information Flow", ETAPS 2014 Unifying Invited Lecture, Grenoble, France, April 2014.
- Ziyuan Meng and Geoffrey Smith, "Faster Two-Bit Pattern Analysis of Leakage", in *Proc. QASA 2013: 2nd International Workshop on Quantitative Aspects of Security Assurance*, Royal Holloway, University of London, September 2013.
- "Quantifying information flow using min-entropy and g-leakage", special topics lecture at *UIUC Summer School on Formal Methods for the Science of Security*, Urbana, IL, July 2013.
- Barbara Espinoza and Geoffrey Smith, "Min-Entropy as a Resource", *Information and Computation*, volume 226, pp. 57–75, April 2013.
- Mário S. Alvim, Kostas Chatzikokolakis, Catuscia Palamidessi, and Geoffrey Smith, "Measuring Information Leakage using Generalized Gain Functions", in *Proc. CSF 2012: 25th IEEE Computer Security Foundations Symposium*, pp. 265–279, Cambridge, MA, June 2012.
- "Min-Entropy as a Resource", invited lecture at *Workshop on Information Security as a Resource*, Oxford University Department of Computer Science, Oxford, UK, October 2011.
- Boris Köpf and Geoffrey Smith, "Vulnerability Bounds and Leakage Resilience of Blinded Cryptography under Timing Attacks", in *Proc. CSF 2010: 23rd IEEE Computer Security Foundations Symposium*, pp. 44–56, Edinburgh, UK, July 2010.

10. Professional Development

- *Visiting Scientist*, Laboratoire d'Informatique (LIX) de l'École Polytechnique, Palaiseau, France, December 2015, December 2014, December 2013, September-December 2011.
- *Visiting Professor*, Macquarie University, Sydney, Australia, July 2014, August 2013.
- *Distinguished Visiting Researcher*, IMDEA Software (Madrid Institute of Advanced Studies in Software Development Technologies), Madrid, Spain, June 2012.

1. **Name: JOSLYN A. SMITH** Rank: Senior Instructor
Tenure-Status: Non-Tenure-Track

2. Degrees Held:
   - MS, Computer Science
   - MS, Mathematics
   - BS, Mathematics

3. Date of original appointment to this faculty, followed by dates and ranks of advancement:
   - SCIS - August 1997, Instructor
   - SCIS - January 2014, Senior Instructor

4. Non-academic experience: N/A
   - 2012 to present – NCWIT Academic Alliance representative
   - 2011 to present, Director for the High-School Programming Competition
   - 2004 - 2010, Judge for the High-School Programming Competition
   - Writing of recommendations for students on an ongoing basis

5. Certifications: Teachers' Certificate - The Mico Teachers' College, Kingston, Jamaica

6. Current Member in Professional Organizations
   - ACM
   - NCWIT Academic Alliance representative

7. Honors and Awards None

8. Service activities (within and outside of the institution)

Within FIU

Curriculum Development Activities
   - Assisted in the design and implementation of the closed lab component of COP2210,
   - Computer Programming I
   - Assisted in the re-design of COP2210 (Computer Programming I) and COP3337 (Computer Programming II) – a transition from C++ to Java. That is, we have casted the three series courses – COP2210, COP3337, and COP3338 – into COP2210 and COP337.
   - Designed and constructed skills test for students entering COP3337

Other Teaching Related Activities
- Developed Manual For Using NetBeans – The contents of the document was designed for two purposes.
- Developed and made available to students on a weekly basis, full length lessons for over 85% of the COP2250 and COP2210 syllabi.

Outside FIU

Workshops & papers reviewed

SIGCSE 2015

- Submission ID: 1113 (Special Session) – *Five Days That Transform My Teaching*
- Submission ID: 1167 (Paper) – *Changing User Attitudes: Bluetooth Security Education*
- Submission ID: 1377 (Paper) – *EngageCSEdu: Engaging and Retaining CS1/2 Students*

SIGCSE 2014

- Submission ID: 1297 (Workshop) - *Scala for Introductory CS and Parallelism*
- Submission ID: 1380 (Panel) - *Surfing the Tsunami: First-Hand Experiences Teaching Online Courses*
- Submission ID: 1305 (Paper) - *An Economical Cluster System for Detecting Data Leakage from BYOD in Wireless LANs*
- Submission ID: 1193 (Paper)
  Bringing Business Intelligence to Healthcare Informatics Curriculum: A Preliminary Investigation

SIGCSE 2013

- Workshop 33 - Title: Alice 3.1 to Java
- Workshop 54 - Title: Arduino Activities for Computer Science Undergraduate Curriculum
- Workshop 60 - Title: CS in Parallel 1: Using map-reduce to teach parallel programming concepts across the CS curriculum
- Workshop 75 - Title: *Introducing and Teaching Mobile Application Development*
- Workshop 81 - Title: *SNAP! (Build Your Own Blocks)*
- Workshop 83 - Title: *App Inventor and Design Thinking: Use Together to Show that Computer Science - is Creative, Collaborative, Relevant, and Meaningful*

SIGCSE 2012

- Workshop 11 - Title: *Teaching Object Orientation - what we do know and what we might not*
- Workshop 44 - Title: *Let's Program Together in Java WIDE*
- Paper 114 - Title: *Code Wave: A Real-Time, Collaborative IDE for Enhanced Learning in Computer Science*

Book Reviews

- Y. Daniel Liang. 2011. *Introduction to java programming*. 9th Edition, Pearson Education.
- Anthony J. Dos Reis. 2009. *Instant java*, State University of New York at New Paltz
- Chapter 6 - Arrays and Array Lists Hortsmann
- JavaProgramming--Basic TOC Annotated Subject to Change/Refinement (Updated on July 24, 2011), Schilds

9. Publications and Presentations

Text Book - Smith, J. A., SR., (Eds.). (2011). *Computer Science Applications /Object Oriented Approach*. San Diego, CA: Cognella

10. Professional Development

1. **Name: Jill Weiss** Rank: Senior Instructor
Tenure-Status: Non-Tenure-Track

2. Degrees Held:

M.A. Computer Science Education, Barry University, 1992
B.A. Business Administration, FIU, 1990

3. Date of original appointment to this faculty, followed by dates and ranks of advancement:

Visiting Instructor	Computing and Inf. Sciences	08/99-08/02
Instructor	Computing and Inf. Sciences	08/02-08/12
Senior Instructor	Computing and Inf. Sciences	08/12-present

4. Non-academic experience

Mt. Sinai Medical Center, Miami Beach, FL, Senior Support Specialist 1999 – 2001

■ Had a wide range of responsibilities that included providing technical support, troubleshooting, and training for Microsoft products and Novell networks to every department in the hospital including the emergency room, hospital staff, physicians, and the billing department. Transitioned and developed training programs to migrate users from old DOS-based systems to Windows. Served as tech liaison between physicians and the IT Department.

■ **Computer City, Inc. Regional Training Manager, Sept 1994 – Sept 1996**

■ Managed and coordinated software training for 20 Computer City training centers for the eastern US and eastern Canada. Communicated training issues to corporate and field management.

- Increased sales throughout region.
- Developed and delivered training programs to new stores

■ **Computer City, Inc. Miami, FL Instructor/Manager, Mar 1994 – Aug 1994**

■ Taught various short-term Windows, DOS and Macintosh applications to corporate and private individuals in their in-house training center.

- Built department in to one of the highest volume centers in company.
- Managed and hired part-time instructors

■ **CompUSA, Inc. Miami, FL, Training Specialist, June 1993 – Dec 1993**

■ Conducted short-term microcomputer classes for largest computer retailer in country. Handled technical support questions for large customer base.

■ **Talent Tree Learning Center Miami, FL Computer Instructor, Jan 1992 – June 1993**

■ Computer Trainer contracted to corporations such as Burger King and Texaco. Designed special program for Texaco employees, including the president to assist users in migrating from a mainframe environment to a PC environment.

■ **Broward County Government Ft. Lauderdale, FL Computer Instructor/Consultant Sept 1988 – Jan 1991**

■ Developed and delivered courses on computer literacy, DOS, Lotus 1-2-3, and WordPerfect for various agencies of the county.

5. Certifications

None

6. Current Member in Professional Organizations

None

7. Honors and Awards

2015 Excellence in Teaching Award, *Florida International University.*
2013 Excellence in Teaching Award, *School of Computing and Information Sciences, Florida International University.*
2008 Excellence in Teaching Award, *School of Computing and Information Sciences, Florida International University.*

8. Service activities (within and outside of the institution)

- Editorial Board Member, Pearson *Your Office* Book series.
- **Appointed Member of the City of Miami Beach Evaluation Committee to evaluate Microwave/Radio system for the City of Miami Beach (2009)**
- Appointed Member of the City of Miami Beach Evaluation Committee to evaluate software vendors and make recommendation to the City Manager (2006)
- Reviewer for the *Handbook of Information Security*, Hossein Bidgoli, Wiley (2005)
- Contributor, *Exploring Excel 2003*, Grauer and Barber, Prentice-Hall (2004)
- Reviewer for *Technology Law*, *What Every Business (And Business-Minded Person) Needs to Know*, Mark Grossman, Scarecrow Press (2003)
- Member of the SCIS Awards committee (2014)
- Member of the instructor recruitment committee (2013-)
- Member of the instructor promotion committee (2010)
- Assessments coordinator for CGS-2518 core curriculum course (2005-)

9. Publications and Presentations

None

10. Professional Development

None

1. **Name**: **Mark Weiss** **Rank**: Eminent Scholar Chaired Professor
Tenure-Status: Tenured

2. Degrees Held:

Degree	Field	Institution	Date
B.E.	Electrical Engineering	Cooper Union	1983
M.S.	EECS	Princeton University	1984
M.A.	Computer Science	Princeton University	1985
Ph.D.	Computer Science	Princeton University	1987

3. Date of original appointment to this faculty, followed by dates and ranks of advancement:

Title	Dates Held
Assistant Professor	1987-1992
Associate Professor	1992-1996
Professor	1996-2014
Eminent Scholar Chaired Professor	2014-
Associate Director for Academic Affairs	2009-

4. Non-academic experience

None

5. Certifications

None

6. Current Member in Professional Organizations

AAAS, Fellow
ACM, Distinguished Educator
SIGCSE, Elected Board Member
IEEE, Senior Member

7. Honors and Awards

2016 FIU Top Scholar

2015 ACM SIGCSE Award for Outstanding Contribution to Computer Science Education: *The oldest and one of the two most prestigious awards in CS education, presented to only one individual annually. Citation: "For authoring textbooks that have had a profound impact on generations of students and for invaluable service to the computer science education community." ACM SIGCSE has nearly 3,000 members and is the third largest ACM SIG. Previous winners include many world-renown computer scientists. The award was presented at SIGCSE 2015, where I then gave a plenary talk to an audience of nearly 1,300 attendees.*

2015 FIU Nominee, U.S. Professor of the Year (winner internal competition)

2012 Fellow, American Association for the Advancement of Science (AAAS). *Citation: "For distinguished contributions to the advancement of Computer Science education through his seminal books and curricular innovations that have impacted both high schools and colleges."*

2012	FIU Top Scholar
2011	ACM Distinguished Educator
2007	FIU SCIS Excellence in Service Award
2005	FIU SCIS Excellence in Teaching Award
2004	College Board Certificate of Appreciation
2000	Data Structures and Algorithm Analysis textbook named one of the thirty most influential books of the twentieth century (ranked #13) by Dr. Dobbs
1999	FIU University Excellence in Teaching Award
1994	FIU University Excellence in Research Award
1994	FIU Teaching Incentive Program Award
1990	FIU Outstanding Achievement and Performance Award
1983	RCA Fellowship and Merit Prize to Princeton University
1981	New York City First Place Winner, Putnam Mathematics Contest

9. Publications and Presentations

1. M. A. Weiss, Data Structures: Past, Present, and Future, 2015 Keynote Address, SIGCSE Technical Symposium
2. M. A. Weiss, ***Data Structures and Algorithm Analysis in C++***, Pearson, Fourth edition, 2014, 656 pgs.
3. M. A. Weiss, ***Data Structures and Algorithm Analysis in Java***, Pearson, Third edition, 2012, 614 pgs.
4. M. A. Weiss, "Data Structures," *Handbook of Computer Science*, CRC Press, Third Edition, 2014.
5. Robert K Lowery, G. Uribe, E. B. Jimenez, M. A. Weiss, K. J. Herrera, M. Regueiro, and R. J. Herrera, "Neanderthal and Denisova genetic affinities with contemporary humans: introgression versus common ancestral polymorphisms," *Gene*, 530 (2013), 83-94.

10. Professional Development

None

1. **Name:** **Ning Xie** Rank: Assistant Professor
Tenure-Status: Tenure-Track

2. Degrees Held: PhD (MIT, 2012)

3. Date of original appointment to this faculty, followed by dates and ranks of advancement: January 2013 – date: Assistant Professor, SCIS, Florida International University

4. Non-academic experience

5. Certifications

6. Current Member in Professional Organizations

7. Honors and Awards
- Akamai Presidential Fellowship, MIT, 2007–2008.
- Presidential Fellowship, State Univ. of New York at Buffalo, 1999–2001.

8. Service activities (within and outside of the institution)
- Program Committee – *PIC'14*
- Reviewer (Journals) – *Algorithmica, Computational Complexity, Journal of Computer and System Sciences, SIAM Journal on Computing, Theory of Computing Systems*
- Reviewer (Conferences) – *COLT, CSR, ESA, FOCS, ITCS, ICALP, RANDOM, SODA, STOC*
- Organizer – *MIT Algorithm and Complexity (A&C) seminar, September 2007 – May 2008.*

9. Publications and Presentations
Publications:
1) H. Tsang, N. Xie and S. Zhang, "Fourier Sparsity of GF(2) Polynomials", *CSR'16*, to appear.
2) I. Haviv and N. Xie, "Sunflowers and Testing Triangle-Freeness of Functions", *ITCS'15*, pages 357–366.
3) A. Bhattacharyya and N. Xie, "Lower Bounds on Testing Triangle-freeness in Boolean Functions", *Computational Complexity*, 24(1):65–101, 2015. A preliminary version appeared in SODA'10, pages 87–98.
4) H. Tsang, C. Wong, N. Xie and S. Zhang, "Fourier Sparsity, Spectral Norm, and the Log-rank Conjecture", *FOCS'13*, pages 658–667.
5) E. Grigorescu, K. Wimmer and N. Xie, "Tight Lower Bounds for Testing Linear Isomorphism", *RANDOM'13*, pages 559–574.
6) R. Rubinfeld and N. Xie, "Robust Characterizations of *k*-wise Independence over Product Spaces and Related Testing Results", *Random Structures and Algorithms*, 43(3): 265–312, 2013. A preliminary version titled "Testing Non-uniform *k*-wise Independent Distributions over Product Spaces" appeared in *ICALP'10*, pages 565–581.

7) Y. Mansour, A. Rubinstein, S. Vardi and N. Xie, "Converting Online Algorithms to Local Computation Algorithms", *ICALP'12*, pages 653–664.
8) N. Alon, R. Rubinfeld, S. Vardi and N. Xie, "Space-efficient Local Computation Algorithms", *SODA'12*, pages 1132–1139.
9) A. Bhattacharyya, V. Chen, M. Sudan and N. Xie, "Testing Linear-Invariant Non-Linear Properties", *Theory of Computing*, 7:75–99, 2011. A preliminary version appeared in STACS'09, pages 135–146.
10) V. Chen, M. Sudan and N. Xie, "Property Testing via Set-theoretic Operations", *ITCS'11*, pages 211–222.
11) R. Rubinfeld, Gil Tamir, S. Vardi and N. Xie, "Fast Local Computation Algorithms", *ITCS'11*, pages 223–238.
12) A. Bhattacharyya, P. Indyk, D. Woodruff and N. Xie, "The Complexity of Linear Dependence Problems in Vector Spaces", *ITCS'11*, pages 496–508.

Presentations:
1) "Tight Lower Bounds for Testing Linear Isomorphism", Florida International University, October 2013.
2) "Tight Lower Bounds for Testing Linear Isomorphism", *RANDOM'13*, Berkeley, CA, August 2013.
3) "Local Computation Algorithms", Purdue University, September 2012.
4) "Space-efficient Local Computation Algorithms", *SODA'12*, Kyoto, Japan, January 2012.
5) "Local Computation Algorithms", Bertinoro workshop on sublinear algorithms, May 2011.
6) "Property Testing via Set-theoretic Operations", *ICS'11*, Beijing, China, January 2011.

10. Professional Development

1. **Name: Wei Zeng** Rank: Assistant Professor Tenure-Status: Tenure Track

2. Degrees Held: Ph.D. in Computer Science and Technology

3. Date of original appointment to this faculty, followed by dates and ranks of advancement:
Tenure-track Assistant Professor Aug 17, 2012

4. Non-academic experience
N/A

5. Certifications
N/A

6. Current Member in Professional Organizations
ACM, IEEE, SIAM, MICCAI

7. Honors and Awards
- The Best Paper Award - The Gaheon Award for the best paper from Volume 9, Year 2009 of the International Journal of CAD/CAM (IJCC), Korea, Aug 27, 2010.
- The NSF Travel Grant for Graduates/Postdocs for The 29th Conference on Computer Communications (IEEE INFOCOM'10), San Diego, CA, Mar 17, 2010.
- The NSF Travel Grant for Graduates/Postdocs for The 51th Annual Symposium on Foundations of Computer Science (FOCS'10), Las Vegas, Nevada, Oct 23-26, 2010.

8. Service activities (within and outside of the institution)
Scientific Program Committees
International Conference on Pattern Recognition (ICPR) 2012, IEEE International Conference on Automatic Face and Gesture Recognition Workshop on 3D Face Biometrics (FG) 2013, International Symposium on Visual Computing (ISVC) 2014-2015
Reviewing or Editorship Activities
Technical Reviewer for Selected Journals and Conferences: IEEE TPAMI, IEEE TIP, IEEE TVCG, IEEE TPDS, IEEE TWC, ACM TOG, ACM TOSN, Medical Physics, C&G, GMOD, SPIE OE, IET CV, IET Biometrics, MICCAI, EuroGraphics, PacificGraphics, FG; *Grant:* U.S. NSF, Georgian NSF, RGC of Hong Kong ; *Book:* CRC Press; *Editor:* J of Appl. & Comp. Math
Service at SCIS/FIU
Graduate Committee, 2014-2015, 2015-2016, *Distinguished Seminar Series Committee*, 2014-2015, 2015-2016, *Faculty Recruitment Committee*, 2013-2014, *Judge*, Senior Project Showcase and Presentations, 2013, 2014, *Assistant*, Women in Computer Science Society, 2012-present *Guest Speaker*, High School Programming Competition, 2013, *Cyber Security Innovation Center Foundation Meeting*, 2012-2014, *Cognitive Neuroscience Initiative Committee Meeting*, 2012

9. Publications and Presentations
Patents and book
1. A. Kaufman, J. Marino, X. Gu and **W. Zeng**. *System and Method for Context Preserving Maps of Tubular Structures*. Pub No.: US 2014/0362080 A1. Dec 11, 2014.
2. A. Kaufman, X. Gu, **W. Zeng**, J. Marino and K. C. Gurijala. *Registration of Scanned Organs Obtained from Different Orientations*. Pub No.: US 2013/0170726 A1. Jul 04, 2013.
3. **W. Zeng** and X. D. Gu. *Ricci Flow for Shape Analysis and Surface Registration: Theories, Algorithms and Applications*. SpringerBriefs in Mathematics, ed. Eve Mayer and Vaishali Damle. New York, NY: Springer Science+Business Media, LLC. Nov 30, 2013.

Selected peer-reviewed conference and journal papers

1. M. Razib, Z.-L. Lu and **W. Zeng**, "Structural Brain Mapping," *Int'l Conf on Medical Image Comp. Comp. Assisted Intervention* (**MICCAI**), Oct, 2015, Munich, Germany.
2. **W. Zeng** and Y.-J. Yang, "Surface Matching and Registration by Landmark Curve-Driven Canonical Quasiconformal Mapping," *Euro Conf Comp Vision* (**ECCV**), Sep, 2014, Zürich.
3. **W. Zeng** and Y.-J. Yang, "Colon Flattening by Landmark-Driven Optimal Quasiconformal Mapping," **MICCAI**, Sep 14-18, 2014, Boston, USA.
4. S. Li, **W. Zeng**, D. Zhou. X. Gu, and J. Gao. *Compact Conformal Map for Greedy Routing in Wireless Mobile Sensor Networks*. IEEE Trans Mobile Comp (**TMC**), 2015. (in press)
5. Z. Su, Y. Wang, R. Shi, **W. Zeng**, J. Sun, F. Luo and X. Gu. *Optimal Mass Transport for Shape Matching and Classification*. IEEE Trans Patt Anal Mach Inte (**IEEE TPAMI**), 2015.
6. Y.-J. Yang, **W. Zeng** and T.-Q. Song. *Optimizing Conformality of NURBS Surfaces by General Bilinear Transformations*. Computer-Aided Design (**CAD**), 63: 12-25, June 2015.
7. Y.-J. Yang and **W. Zeng**. *Optimizing Equiareality of NURBS Surfaces Using Composite Möbius Transformations*. J of Comp Applied Mathematics (**JCAM**), 279:1-12, May 2015.
8. **W. Zeng**, M. Razib and A. Shahid. *Diffeomorphism Spline*. Axioms: Discrete Differential Geometry and its Applications to Imaging and Graphics, 4: 156-176, April 2015.
9. Y.-J. Yang, **W. Zeng**, and J.-F. Chen. *Equiareal Parameterizations of NURBS Surfaces*. Journal of Graphical Models (**GMOD**), 76(1): 43-55, 2014.
10. H. Li, **W. Zeng**, L. Chen, J.-M. Morvan and X. Gu. *Surface Meshing with Curvature Convergence*. IEEE Trans Vis Computer Graphics (**IEEE TVCG**), 20(6): 919-934, 2014.
11. K.C. Gurijala, R. Shi, **W. Zeng**, X. Gu and A. Kaufman. *Colon Flattening Using Heat Diffusion Riemannian Metric*. **IEEE TVCG**, 19(12):2848-2857, 2013.
12. L. M. Lui, **W. Zeng**, S.-T. Yau and X. Gu. *Shape Analysis of Planar Multiply-Connected Objects Using Conformal Welding*. **IEEE TPAMI**, 36(7): 1384-1401, 2013.
13. **W. Zeng**, R. Shi, Y. Wang, S.-T. Yau and X. Gu. *Teichmüller Shape Descriptor and Its Application to Alzheimer's Disease Study*. Int'l J Comp Vis (**IJCV**), 105(2):155-170, 2013.
14. Y.-J. Yang, **W. Zeng,** C.-L. Yang, B. Deng, X. X. Meng and S. S. Iyengar. *An Algorithm to Improve Parameterizations of Rational Bezier Surfaces Using Rational Bilinear Reparameterization*. Computer-Aided Design (**CAD**), 45(3):628-638, 2013.
15. **W. Zeng**, D. Samaras and X. Gu, "Ricci Flow for 3D Shape Analysis," *IEEE Transactions on Pattern Analysis and Machine Intelligence* (**TPAMI**), 32(4): 662-677, 2010.

Selected invited talks

"*Ricci Curvature Flow for Shape Registration and Geometric Analysis*": Computer Science, Univ of Houston, Feb 2013. Physics, Florida Atlantic Univ, Nov 2014. Math, Univ of Florida, Nov 2014; "*Computational Quasiconformal Geometry*": Math, Univ of Science and Technology of China, Aug 2011. Shenzhen Institute of Advanced Technology, Aug 2011; "*Computational Conformal Geometry Based Shape Analysis*": Microsoft Research Asia, Jun 2008

10. Professional Development

N/A