CURRICULUM VITAE
of
Nagarajan Prabakar (Prabu)
School of Computing and Information Sciences
Florida International University

EDUCATION

Ph.D.	University of Queensland, Australia	Computer Science	1985
M.E.	Indian Institute of Science, India	Automation	1979
B.E.	Annamalai University, India	Electrical & Electronics Engineering	1977

FULL-TIME ACADEMIC EXPERIENCE

FIU	Associate Professor	Computer Science	Aug 1991 - present
FIU	Assistant Professor	Computer Science	Aug 1985 – Aug 1991
FIU	Visiting Assistant Professor	Computer Science	Aug 1984 – Aug 1985

NON-ACADEMIC EXPERIENCE

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

PROFESSIONAL HONORS, PRIZES, FELLOWSHIPS

Excellence in Service Award, School of Computing and Information Sciences, 2020

AWS Academy Accredited Educator, 2020

AWS Certified Cloud Practitioner, 2020

Finalist for the FIU Presidential Excellence Award in 2019 and 2020
on "Accelerating the Next Generation of STEM"

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

PUBLICATIONS IN DISCIPLINE

- A Meray and **N Prabakar**: "Optimizing Sensor Subset Selection with Quantum Annealing: A Large-Scale Indoor Temperature Regulation Application," Proceedings of the 15th International Conference on Intelligent Human Computer Interaction (IHCI 2023), EXCO Daegu, Korea, Nov. 8-10, 2023. Best Session Paper Award.
- J Soni, **N Prabakar**, and H Upadhyay: "Vision Transformer-based Emotion Detection in HCI for Enhanced Interaction," Proceedings of the 15th International Conference on Intelligent Human Computer Interaction (IHCI 2023), EXCO Daegu, Korea, Nov. 8-10, 2023.
- A Meray, R Boza, MR Siddiquee, C Reyes, MH Amini, and **N Prabakar**: "Subset Sensor Selection Optimization: A Genetic Algorithm Approach with Innovative Set Encoding Methods," *IEEE Sensors Journal*, 23(22), pp. 28462-28473, 2023, https://doi.org/10.1109/20JSEN.2023.3322596
- M Ngouen, MA Rehman, **N Prabakar**, S Uluagac, and L Njilla: "Q-SECURE: A Quantum Resistant Security for Resource-Constrained IoT Device Encryption," Proceedings of the 10th International Conference on Internet of Things: Systems, Management and Security (IOTSMS 2023), Las San Antonio, Texas, Oct. 23-25, 2023.
- J Soni, **N Prabakar**, and H Upadhyay (2023): "Deep Learning-Based Efficient Customer Segmentation for Online Retail Businesses," In Benchmarks and Hybrid Algorithms in Optimization and Applications, pp. 147-164, Springer Nature Singapore.
- J Soni, **N Prabakar**, and H Upadhyay (2023): "Convolutional Neural Network-Based Cancer Detection Using Histopathologic Images," In Innovations in Machine and Deep Learning: Case Studies and Applications, pp. 287-303, Springer Nature Switzerland.
- J Soni, P Gangwani, S Sirigineedi, S Joshi, **N Prabakar**, and H Upadhyay (2023): "Deep Learning Approach for Detection of Fraudulent Credit Card Transactions," In Artificial Intelligence in Cyber Security: Theories and Applications, pp. 125-128, Springer International Publishing.
- J Soni, S Sirigineedi, KS Vutukuru, SSCE Sirigineedi, **N Prabakar**, and H Upadhyay (2023): "Learning-Based Model for Phishing Attack Detection," In Artificial Intelligence in Cyber Security: Theories and Applications, pp. 113-124, Springer International Publishing.
- J Soni, **N Prabakar**, and H Upadhyay (2023): "Ada-Thres: An Adaptive Thresholding Method to Mitigate the False Alarms" accepted for publication in the 9th Annual Conf. on Computational Science & Computational Intelligence (CSCI'22).
- J Soni, **N Prabakar**, H Upadhyay, and L Lagos: "MLE-NET: A Multi-Layered Ensemble Approach for an Enhanced Anomaly Detection" in International Journal of Computers and Their Applications, Vol. 30, No. 1, pp. 5-13, March 2023.
- J Soni, **N Prabakar**, and H Upadhyay (2023): "Quantum Computing enabled Machine Learning for an Enhanced Model Training Approach," In Quantum Computing: A Shift from Bits to Qubits. pp 201-216, Springer Nature Singapore.
- J Soni, **N Prabakar**, and H Upadhyay (2023): "A Multi-layered Deep Learning Approach for Human Stress Detection." In: Zaynidinov, H., Singh, M., Tiwary, U.S., Singh, D. (eds)

Intelligent Human Computer Interaction. IHCI 2022. Lecture Notes in Computer Science, Vol. 13741, pp 7-17. Springer, Cham. https://doi.org/10.1007/978-3-031-27199-1_2

- J Soni, **N Prabakar**, and H Upadhyay: "EA-NET: A Hybrid and Ensemble Multi-Level Approach for Robust Anomaly Detection." In: F.C. Harris Jr, A. Redei and R. Wu (eds) Proceedings of the 31st International Conference on Software Engineering and Data Engineering, Vol. 88, pp. 18-27, 2022, Best Paper Award. https://doi.org/10.29007/6nhl
- S Valle, **N Prabakar**, H Upadhyay (2022): "Building a Distributed System for Live Virtual Machine Introspection." In Proceedings of the 35th International Conference on Computer Applications in Industry and Engineering, Vol. 89, pp. 72-80.
- J Soni, **N Prabakar**, and H Upadhyay (2022): "Machine Learning-based Cyber Threat Anomaly Detection in Virtualized Application Processes" accepted for publication in the 24th International Conference on Artificial Intelligence (ICAI'22) in Springer Book Series "Transactions on Computational Science & Computational Intelligence".
- J Soni, **N Prabakar**, and H Upadhyay (2022): "A Transfer Learning Approach for Hurricane Damage Assessment using satellite imagery," accepted for publication in SciTech Publishing "Earth Observation Data Analytics Using Machine and Deep Learning."
- J Soni, **N Prabakar**, and H Upadhyay (2022): "Towards detecting fake spammers groups in social media: An unsupervised Deep Learning approach," In Deep Learning for Social Media Data Analytics (SMDA 2021), pp. 237-253, Springer Book Series "Studies in Big Data".
- J Soni and **N Prabakar** (2022): "KeyNet: Enhancing Cybersecurity with Deep Learning-Based LSTM on Keystroke Dynamics for Authentication." In: Kim, JH., Singh, M., Khan, J., Tiwary, U.S., Sur, M., Singh, D. (eds) Intelligent Human Computer Interaction. IHCI 2021. Lecture Notes in Computer Science, Vol. 13184, pp. 761-771, Springer, Cham. https://doi.org/10.1007/978-3-030-98404-5_67
- P Rathore, J Soni, **N Prabakar**, M Palaniswami, and P Santi: "Identifying Groups of Fake Reviewers Using a Semisupervised Approach," *IEEE Transactions on Computational Social Systems*, 8(6), pp. 1369-1378, 2021, https://doi.org/10.1109/TCSS.2021.3085406
- SK Peddoju, H Upadhyay, J Soni, and **N Prabakar:** "Natural Language Processing based Anomalous System Call Sequences Detection with Virtual Memory Introspection" *International Journal of Advanced Computer Science and Applications* (IJACSA), 11(5), pp 455-460, 2020. https://doi.org/10.14569/IJACSA.2020.0110559
- J Soni, **N Prabakar**, SK Peddoju, and H Upadhyay: "Comparative Analysis of LSTM, One-Class SVM, and PCA to Monitor Real Time Malware Threats using System Call Sequences and Virtual Machine Introspection," Proceedings of the 2nd Springer International Conference on Communication, Computing and Electronics Systems (ICCCES), Coimbatore, India, Oct 21-22, 2020.
- J Soni, **N Prabakar**, and H Upadhyay: 'Visualizing High Dimensional Data using T-Distributed Stochastic Neighbor Embedding Algorithm" in "Principle of Data Science" In Arabnia H., Daimi K., Stahlbock R., Soviany C., Heilig L., Brüssau K. (eds) Principles of Data Science. Transactions on Computational Science and Computational Intelligence. *Springer*, Cham. pp 189-206, 2020 https://doi.org/10.1007/978-3-030-43981-1_9
- J Soni, **N Prabakar**, and H Upadhyay: 'Comparative Analysis of LSTM Sequence-Sequence and Auto Encoder for real-time anomaly detection using system call sequences,' *International*

Journal of Innovative Research in Computer and Communication Engineering, Vol. 7, Issue 12, pp. 4225-4230, 2019.

- GS Thejas, J Soni, KG Boroojeni, SS Iyengar, K Srivastava, P Badrinath, NR Sunitha, **N Prabakar**, and H Upadhyay: 'A Multi-time-scale Time Series Analysis for Click Fraud Forecasting using Binary Labeled Imbalanced Dataset,' Proceedings of the 4th International Conference on Computational Systems and Information Technology for Sustainable Solutions [CSITSS], Bengaluru, India, pp. 1-8, Dec 20-21, 2019.
- J Soni, **N Prabakar**, and H Upadhyay: 'Behavioral Analysis of System Call Sequences Using LSTM Seq-Seq, Cosine Similarity and Jaccard Similarity for Real-Time Anomaly Detection,' Proceedings of the 6th International Conference on Computational Science and Computational Intelligence (CSCI), Las Vegas, Nevada, pp. 214-219, Dec 5-7, 2019.
- J Soni, **N Prabakar**, and H Upadhyay: 'Feature Extraction through Deepwalk on Weighted Graph,' Proceedings of the 2019 International Conference on Data Science (ICDATA'19), Las Vegas, pp.164-170, July 29 - Aug 1, 2019.
- J Soni, **N Prabakar**, and H Upadhyay: 'Deep Learning Approach to Detect Malicious Attacks at System Level,' Proceedings of the 12th ACM Conference on Security and Privacy in Wireless and Mobile Networks (WiSec'19), Miami, Florida, pp. 314-315, May 15-17, 2019 https://doi.org/10.1145/3317549.3326308
- GS Thejas, J Soni, K Chandna, SS Iyengar, NR Sunitha, and **N Prabakar**: 'Learning-Based Model to Fight against Fake Like Clicks on Instagram Posts,' *Proceedings of the IEEE SoutheastCon 2019*, Huntsville, Alabama, pp. 1-8, Apr 11-14, 2019.
- J Soni and **N Prabakar**: 'Effective Machine Learning Approach to Detect Groups of Fake Reviewers,' *Proceedings of the 2018 International Conference on Data Science (ICDATA'18)*, Las Vegas, pp. 74-78, July 30-Aug 2, 2018.
- YJ Jung, HY Park, K Maitra, **N Prabakar**, and J-H Kim: 'Real-Time, Simultaneous and Proportional Myoelectric Control for Robotic Rehabilitation Therapy of Stroke Survivors,' *Therapeutic Science for Neurorehabilitation*, Vol. 7, No. 1, pp. 78-87, 2018.
- J-H Kim, G Sharma, I Cardenas, D Kim, **N Prabakar**, and SS Iyengar: 'DynamicPIN: A Novel Approach Towards Secure ATM Authentication,' *Proceedings of the 4th Annual Conference on Computational Science and Computational Intelligence (CSCI'17)*, Las Vegas, Dec 14-16, 2017.
- J-H Kim, **N Prabakar**, G Sharma, and SS Iyengar: 'Inspiring Innovative Aspirations among Undergraduate Students.' *Proceedings of the 8th International Conference on Computer Science Education: Innovation and Technology (CSEIT 2017)*, Singapore, October 9-10, 2017 ISSN 2251-2195 DOI: 10.5176/2251-2195_CSEIT17.58.
- J Soni, **N Prabakar**, and J-H Kim: 'Prediction of Component Failures of Telepresence Robot with Temporal Data.' *30th Florida Conference on Recent Advances in Robotics*, Boca Raton, pp.178-181, May 11-12, 2017.
- S Sundarapandian, JH Kim, S Ferris-Francis, J Miller, **N Prabakar**, C Charters, H Michko: 'A Novel Communication Architecture and Control System for TeleBot: A Multi-Modal Telepresence Robot for Disabled Officers.' *International Journal of Next-Generation Computing*, Vol. 7, No. 3, 2016.

- J-H Kim, G Sharma, N Boudriga, SS Iyengar, and **N Prabakar**: 'Autonomous pipeline monitoring and maintenance system: An 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.
- J-H Kim, **N Prabakar**, and C Tope: 'Efficient Concurrent Operations of Telepresence Avatars.' *Proceedings of the 44th International Symposium on Robotics*, CINTEX, Seoul, Korea, Oct 24-26, 2013.
- **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, Aug 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 SS Iyengar: 'Sensor Network Based Parking Management System.' *Proceedings of the 4th International Conference on Sensor Networks and Applications*, New Orleans, pp. 181-185, Nov 2012.
- R Rangaswami, SM Sadjadi, **N Prabakar**, and Y Deng: 'Automatic generation of user-centric multimedia communication services.' *Proceedings of the 26th IEEE International Performance Computing and Communications Conference (IPCCC)*, New Orleans, pp. 324-331, April 2007.
- V Hristidis, PJ Clarke, **N Prabakar**, Y Deng, JA White, RP Burke: 'A Flexible Approach for Electronic Medical Records Exchange.' *Proceedings of the International Workshop on Health Information and Knowledge Management (HIKM)*, in conjunction with ACM CIKM, pp. 33-40, 2006.
- Y Deng, SM Sadjadi, PJ Clarke, C Zhang, V Hristidis, R Rangaswami, and **N Prabakar**: 'A communication virtual machine.' *Proceedings of the 30th Annual International Computer Software and Applications Conference (COMPSAC 2006)*, Chicago, pp. 521-531, Sep 2006.
- PJ Clarke, V Hristidis, Y Wang, **N Prabakar**, and Y Deng: 'A Declarative Approach for Specifying User-Centric Communication.' *Proceedings of the International Symposium on Collaborative Technologies and Systems (CTS 2006)*, Las Vegas, pp. 89-98, May 2006.
- 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.
- N Rishe, S-C Chen, **N Prabakar**, M Weiss, W Sun, A Selivonenko, and D Davis-Chu: 'Terrafly: A High-Performance Web-Based Digital Library System for Spatial Data Access,' *Proceedings of the 17th International Conference on Data Engineering*, Apr 2-6, Heidelberg, Germany, pp. 17-19, 2001.
- D Davis-Chu, **N Prabakar**, and N Rishe: 'A System for Continuous, Real-Time Search and Retrieval of Georeferenced Objects,' *Proceedings of the ISCA (International Society for Computers and Their Applications) 2nd International Conference on Information Reuse and Integration*, Nov 1-3, Honolulu, Hawaii, pp. 82-85, 2000.
- A Selivonenko, **N Prabakar**, N Rishe, and D Davis-Chu: 'Dynamic Mosaicking of Heterogeneous Digital Images,' *Proceedings of the ISCA (International Society for Computers*

and Their Applications) 2nd International Conference on Information Reuse and Integration, Nov 1-3, Honolulu, Hawaii, pp. 86-90, 2000.

- **N Prabakar**, J Vidal, and Y Gu: 'A System for Interactive Visualization of Medical Images Over a TCP/IP Network,' *Proceedings of the International Conference on Imaging Science, Systems, and Technology (CISST'2000)*, Jun 26 - 29, Las Vegas, pp. 137-142, 2000.
- D Davis-Chu, **N Prabakar**, and N Rishe: 'Client-Server Based Real-Time Integration of Remotely Sensed and Digital Data,' *Proceedings of the International Conference on Imaging Science, Systems, and Technology (CISST'2000)*, Jun 26 - 29, Las Vegas, pp. 499-505, 2000.
- **N Prabakar**, Q Jin, and N Rishe: 'Variation Assessment of Large Entities Using Spatial Data,' *Proceedings of the International Conference on Imaging Science, Systems, and Technology (CISST'2000)*, Jun 26 - 29, Las Vegas, pp. 571-576, 2000.
- **N Prabhakaran**, V Maddineni, and N Rishe: 'Spatial Overlay of Vector Data on Raster Data in a Semantic Object-Oriented Database Environment,' *Proceedings of the International Conference on Imaging Science, Systems, and Technology (CISST'99)*, Jun 28 - Jul 1, Las Vegas, pp. 100-104, 1999.
- **N Prabhakaran**, S Sridhar, and N Rishe: 'A Two Phase Digital Ortho Photo Mosaicking System,' *Proceedings of the International Conference on Imaging Science, Systems, and Technology (CISST'99)*, Jun 28 - Jul 1, Las Vegas, pp. 151-154, 1999.
- T Ho, E Alvarez, **N Prabhakaran**, D Barton, N Rishe, and S Graham: 'Integration of a GIS and a Semantic Database System,' *Proceedings of the International Conference on Geospatial Information in Agriculture and Forestry*, Jun 1-3, Orlando, pp. 629-636, 1998.
- N Rishe, D Barton, **N Prabakaran**, M Gutierrez, M Martinez, R Athauda, A Gonzalez, and S Graham: 'Landsat Viewer: A Tool to Create Color Composite Images of Landsat Thematic Mapper Data,' *Proceedings of the International Conference on Geospatial Information in Agriculture and Forestry*, Jun 1-3, Orlando, pp. 529-536, 1998.
- N Rishe, D Barton, **N Prabhakaran**, M Gutierrez, E Alvarez, R Athauda, J Rodriguez, and A Gonzalez: 'Landsat Data Visualization via the Internet,' *Proceedings of the International Symposium on Spectral Sensing Research*, Dec 13-19, San Diego, 1997.
- **N Prabhakaran**, N Rishe, and R Athauda: 'Tracking Hurricane Paths,' *Proceedings of the Image Registration Workshop, NASA GSFC*, Nov 20-21, Maryland, pp. 357-360, 1997.
- **N Prabhakaran**, M Palakkat, and D Yang: 'Neural Network Based Auto Tag Identification System,' *Proceedings of the IEEE International Conference on Systems, Man and Cybernetics*, Oct 12-15, Orlando, pp. 3582-3584, 1997.
- D Yang and **N Prabhakaran**: 'A Simplified Approach to Desktop 3D Scanning', *Proceedings of the International Conference on Imaging Science, Systems, and Technology (CISST'97)*, Jun 30 - Jul 3, Las Vegas, pp. 508-511, 1997.
- L Yan, W Sun, **N Prabhakaran**, S Guo, Y Deng, and N Rishe: 'A Dynamic Hypermedia Model for Interactive Video,' *Proceedings of the 2nd International Conference on Multimedia Information Systems*, Apr 3-5, Illinois, pp. 79-85, 1997.
- J Penagos, **N Prabhakaran**, and S Wunnava: 'An Efficient Scheme for Dynamic Signature Verification,' *Proceedings of IEEE SOUTHEASTCON'96*, Apr 11-14, pp. 451-457, 1996.

- **N Prabhakaran**, P Sharma, and W Subbarao: 'Orientation Recognition of a Signature Pattern,' *Proceedings of IEEE International Workshop on Emerging Technologies and Factory Automation*, Melbourne, Australia, Aug 11-14, pp. 11-14, 1992.
- **N Prabhakaran**, K Yen, and W Subbarao: 'Local and Distributed Intelligence Systems for Fault Tolerance,' *Proceedings of the IEEE Southcon'92*, Orlando, FL, Mar 10-12, pp. 115-118, 1992.
- J Mookherje and **N Prabhakaran**: 'Spatial Decomposition of a Tumor into a Minimum Number of Spherical Components,' *Proceedings of the 1992 ACM/SIGAPP Symposium on Applied Computing*, Kansas City, MO, Mar 1-3, pp. 988-992, 1992.
- W Sun, **N Prabhakaran**, and X Zhou: 'Automatic Identification of Semantic Integrity Constraints in Object-Oriented Databases,' *Proceedings of 1991 IEEE International Conference on Systems, Man, & Cybernetics*, Charlottesville, VA, Oct 13-16, pp. 1667-1672, 1991.
- **N Prabhakaran**, L Wang, and J Mookherje: 'An Efficient Radiation Treatment of a Brain Tumor,' *Proceedings of IEEE TENCON International Conference*, New Delhi, Aug 28-30, Vol. 2, pp. 75-80, 1991.
- M Palaniswami, **N Prabhakaran**, S Thacore, and W Subbarao: 'Signature Identification using Neural Networks,' *Proceedings of IEEE TENCON International Conference*, New Delhi, Aug 28-30, Vol. 2, pp. 149-152, 1991.
- R Ghaly and **N Prabhakaran**: 'A rule-based object-oriented approach for modeling real-time systems,' *Journal of Information and Software Technology*, Vol. 10, No. 4, pp. 250-258, 1991.
- **N Prabhakaran**, WV Subbarao, and J Penagos: 'An Expert System Approach for Optical Image Processing and Analysis,' *Proceedings of 7th IASTED International Conference on EXPERT SYSTEMS Theory & Applications*, Los Angeles, Dec 12-15, pp. 5-6, 1990.
- WV Subbarao, F Gonzalez, and **N Prabhakaran**: 'Micro Computer Network Based Image Storage and Retrieval System (ISRS) Development,' *Proceedings of ISMM International Multiconference on Microcomputer Applications*, Los Angeles Dec 12-15, pp. 16-18, 1990.
- L Wang and **N Prabhakaran**: 'Optimal Orientation of a set of Paths for the Radiation Treatment of a Tumor,' *Proceedings of the 9-th Southern Biomedical Engineering Conference*, Miami, Nov 17-18, 1990.
- **N Prabhakaran** and L Wang: 'Synthesis of an Arbitrary Cross Sectional View from 2-D CTScan Images', *Proceedings of the 12th Annual International Conference IEEE Engineering in Medicine and Biology Society*, Philadelphia, Nov 1-4, pp. 1239-1240, 1990.
- R Ghaly and **N Prabhakaran**: 'A Knowledge-Based Approach to Real-Time Systems,' *Proceedings of the 28-th ACM SERC*, Greenville, South Carolina, Apr 18-20, pp. 198, 1990.
- J Mookherje and **N Prabhakaran**: 'An Object-Oriented Representation of Semantic and Graphic Interrelationships,' *Proceedings of the 28th ACM SERC Greenville*, South Carolina, Apr 18-20, pp. 199, 1990.
- **N Prabhakaran**: 'The Outstanding Problem for Today's Database Technology,' *Proceedings of PARBASE-90: International Conference on Databases, Parallel Architectures, and their Applications*, IEEE Computer Society Press, pp. 268-273, 1990.

- **N Prabhakaran**, D Tal, and M Lenart: 'A Semantic Database Approach for Tilings,' *Proceedings of PARBASE-90: International Conference on Databases, Parallel Architectures, and their Applications*, IEEE Computer Society Press, pp. 447-452, 1990.
- R Ghaly and **N Prabhakaran**: 'Modeling of a Real-Time Object-Oriented Database Schema,' *Proceedings of the 2nd Annual Conference on Productivity through Computer Integrated Engineering & Manufacturing*, Orlando, Florida, Nov 13-15, pp. 83-86, 1989.
- **N Prabhakaran** and E Falkenberg: 'Representation of dynamic features in a conceptual schema,' *Australian Computer Journal*, Vol. 20. No. 3. pp. 98-104. 1988.
- **N Prabhakaran** and G Sen: 'THERMBAR: A Pascal program for calculating pressure and temperature of mantle rocks,' *International Journal of Computers & Geosciences*, Vol. 14, No. 4, pp. 527-539, 1988.
- D Tal, N Rishe, D Barton, and **N Prabhakaran**: 'High-throughput Highly-parallel Database System,' *Proceedings of the 26th ACM SERC*, Mobile, Ala. Apr 20-22, pp. 682-686, 1988.
- **N Prabhakaran** and M Palaniswami: 'A Semantical Database for Analysis and Control of Power Systems,' *International Journal of Computers & Electrical Engineering*, Vol. 11, No. 4, pp. 233-238, 1984.
- **N Prabhakaran** and D Vermeir: 'On the Generation of Database Schemata,' *Australian Computer Journal*, Vol. 15, No. 3, pp. 91-102, 1983.
- **N Prabhakaran** and D Vermeir: 'A Compiler for Conceptual Schemata,' *10th Australian Computer Conference Proceedings*, Melbourne, Australia, Sep 26-30, pp. 284-296, 1983.

PATENT

- J-H Kim, **N Prabakar**, SS Iyengar, L Castillo, J Carvajal, E Almario and G Vietri, "*Systems for controlling a movable object*," US Patent No. 9,934,613, Apr 3, 2018. Link.

FUNDED RESEARCH

- "Quantum Algorithms for Database Operations" proposal to AFRL-Information - AFRL/RI with Steven Valle (PhD Student)
  Role: PI
  Amount: $46,932
  Period: 5/2022 – 7/2022
- "Cyber Attack Orchestration Test Bed for Automation and Threat Monitoring in Virtual Environment (CTAM)" proposal to DoD with H. Upadhyay (PI).
  Role: Co-PI
  Amount: $2.2M
  Period: 2020-2022
- "UniversityCity Prosperity Project" proposal to U.S. Department of Transportation with N. Rishe (PI).
  Role: Co-PI
  Amount: $11.4M
  Period: 2014-2016

- "High Performance Database Management with Application to Earth Science" proposal (IRA cont) to NASA with N. Rishe (PI).
  Role: Co-Investigator
  Amount: $1.5M
  Period: 1999-2002
- "High Performance Connection for Florida International University" proposal (I2) to NSF with N. Rishe (PI).
  Role: Senior Investigator
  Amount: $253.3K
  Period: 1999-2001
- "Spatial Data Visualization Using a Heterogeneous Distributed Database Management System" proposal ("KDI Supplement" to CREST) to NSF with N. Rishe (PI).
  Role: Senior Investigator
  Amount: $510K
  Period: 1998-2001
- "Active Database Management Systems for Monitoring Complex Situations" proposal (Operational Phase) to Florida High Technology and Industry Council
  with U.S. Chakravarthy (PI).
  Role: Co-Investigator
  Amount: $4,200
  Period: 1991-1992
- "Computer Modeling of Chemical and Thermal Processes in Earths Mantle" proposal to Academic Affairs, FIU
  Role: PI
  Amount: $10,618
  Period: 1990 Summer-B
- "High-throughput Parallel Database Machine" proposal to Florida High Technology and Industry Council with N. Rishe (PI).
  Role: Principal Investigator
  Amount: $26,000
  Period: 1990-1991
- "High-throughput Highly-parallel Database System" proposal to Florida High Technology and Industry Council with N. Rishe (PI).
  Role: Co-Investigator
  Amount: $20,000
  Period: 1988-1989

RESEARCH PROPOSALS NOT FUNDED

- “FAI: Fair-TIME: Improving Accuracy of Gender Identification Using Complexion” proposal to NSF.
  Role: PI
  Amount: $1M
  Period: 2022-2025

- "NRT-QISE: Training STEM graduate students in quantum computing-enabled AI research and applications" proposal to NSF with S.S. Iyengar (PI).
  Role: Co-PI
  Amount: $3M
  Period: 2022-2027
- "PIPP Phase I: AI-driven pandemic prediction and prevention using multi-layered and multi-modal health, social, and behavioral analytics" proposal to NSF with H. Upadhyay (PI).
  Role: Co-PI
  Amount: $1M
  Period: 2022-2023

OTHER PROFESSIONAL ACTIVITIES AND PUBLIC SERVICE

School-wide Service:

Undergraduate Program Director: 2020 – present
Coordinate all seven undergraduate programs (CS-BS, CS-BS-SDD, CS-BA, IT-BS, IT-BS-Software, IT-BA, CY-BS) in the School of Computing. Enhanced course flowcharts for all seven programs by integrating embedded hyperlinks of all course syllabi for seamless, transparent access to course information for students, advisors, faculty, and accreditation team (https://users.cs.fiu.edu/~prabakar/upc/flowcharts/).

Assessment Coordinator: 2020 – 2022
Coordinate ABET Accreditation renewal for the CS-BS program.
Lead new ABET Accreditation for both IT-BS and CY-BS programs.
Lead 16 Subject Area Coordinators for all undergraduate programs
with guidelines https://users.cs.fiu.edu/~prabakar/ABET/SAC/guide/
Coordinated 25 faculty for Direct Assessment of core courses
with https://users.cs.fiu.edu/~prabakar/ABET/DirectAssessment/guide/
Implemented Course Evaluation System status progress to improve student participation in CES survey https://users.cs.fiu.edu/~prabakar/CES/status/

New Bachelor's Program in Cybersecurity: 2019 - present
Prepared a new BS program in Cybersecurity for several phases during Summer 2019 – Summer 2020. Presented this new BS degree in Cybersecurity in the University Curriculum Committee hearing (Dec 6, 2019), Faculty Senate meeting (Jan 14, 2020), and in a live broadcast at the WLRN studio on Jan 30, 2020. Prepared several curriculum course proposals and conducted six info sessions for marketing this new program during Summer 2020 and Fall 2020. Achieved an enrollment of 41 students in the first academic year of the program.

Streamlining of the CS Curriculum: 2018 – 2019
Redesigned the entire CS curriculum by decreasing core courses with improved elective choices, thereby accelerating the graduation rate for students in CS programs (CS-BS, CS-BS-

SDD, CS-BA, and IT-BS-Software). Presented the new curriculum model in a town hall meeting (10/17/19) and implemented it with nine curriculum proposals.

Undergraduate Committee Chair: 2006 – 2012, 2014 – 2020
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 made recommendations on assessment reports.
In Spring 2010, I restructured the IT Curriculum to meet ABET requirements Fall 2011 and coordinated several CS curriculum changes.

Coordinator for Professional Master's in Information Technology: 2012 – 2017
Plan course offerings, schedule classes, and identify instructors for each course for the Professional MS in Information Technology program.

Instructor Recruitment Committee Chair: 2012 – 2016
Evaluated twenty applicants, conducted online and on-campus interviews for selected applicants, and recommended a ranked list of candidates for instructor positions.

Subject Area Coordinator: 2003 - 2020
Responsible for reviewing and revising the syllabi, updating textbooks, reviewing instructor evaluations & students' feedback, and writing assessment summaries for the courses.

IT Database area: 2003 - 2020
- COP-4703 (Information Retrieval and Storage Concepts)
- CTS-4408 (Database Administration)
- COP-4722 (Survey of Database Systems)

IT Systems area: 2003 - 2020
- CGS-3767 (Computer Operating Systems)
- COP-3348 (Introduction to Using Unix/Linux Systems)
- COP-4343 (Unix System Administration)

CS Computer organization area: 2010 - 2020
- CDA-3103 (Fundamentals of Computer Systems)
- CDA-4101 (Structured Computer Organization)
- COP-4610 (Operating Systems Principles)

Equipment Committee Chair: 1993 – 1994, 2002 – 2004
Responsible for the allocation of new computers to faculty members, prioritize faculty requests for resources and assigning old computers for cluster nodes.

Human Resources Committee Chair: 1992 – 1993, 1994 – 1995, 1999 – 2001

Responsible for requesting nominations for promotion/tenure, conducting evaluations of the Director and Associate Director, and school committee elections, and preparing the evaluation letter for the Director.

Graduate Committee Chair: 1996 – 1999
Responsible for evaluating graduate admission applications, shortlisting graduate applicants for assistantships, and planning and coordinating qualifier exams.

Graduate Advisor: 1996 – 1999
Responsible for advising all graduate students and potential graduate applicants and verifying student files for graduate certification.

Human Resources Committee Member: 2010 – 2013
Responsible for assisting promotion/tenure candidates in their file preparations and conducting evaluations of the Director and Associate Director and school committee elections.

Infrastructure Committee Chair: 2012 – 2014
Responsible for evaluation of research labs, instructional and student access labs, and faculty technology needs, and allocate available resources appropriately.

Annual Awards Committee Member: 2012 – 2013
Establish procedures for evaluating performances of outstanding faculty and evaluate faculty for teaching, research, service, and mentorship awards, and submit the recommendation to the administrators.

Mentor for the Senior Project "User-Controlled Subliminal Image Display": 2013
Mentored a team of CS senior students in developing a subliminal visual system on Windows and a graphical integrated development environment to create subliminal images.

College-wide Service:

College Faculty Council Vice-Chair: 2014 - 2015
Represented issues related to academic units at the faculty council.

College Awards Committee Chair: 2013 - 2015
Conducted the nomination and review processes for the college faculty awards. Also recommended guidelines for future college staff awards.

College Curriculum Committee Chair: 2010 – 2013
Created a website for the College Curriculum Committee at http://users.cis.fiu.edu/~prabakar/ccc and streamlined the meeting process. Further, this enabled transparency of the entire committee operations (documents, minutes, resolutions) for the whole college and drastically cut down the number of paper copies made for the meetings.

College Curriculum Committee Vice-Chair: 2009 - 2010
Coordinated the curriculum interaction for the college with the Faculty Senate office

College Curriculum Committee Representative for SCIS: 2008 - 2013
Coordinated and submitted the following curriculum proposals on behalf of SCIS:

- Twenty-two new courses
- New graduate program (MS in IT)
- Program changes to BS in CS, SDD Track, BS in IT, PhD in CS, MS in TCN, MS in IT
- Twenty-seven-course changes

University-wide Service:

FIU-AWS Academy collaboration: 2019 – present
I played a crucial role in establishing the collaboration between FIU and AWS Academy from February 2019. Following the approval of the agreement in April 2020, I arranged a special AWS training session for SCIS faculty. I conducted the first AWS Academy course at FIU on Cloud Foundation, 2021.

University Curriculum Committee Chair: 2010 – 2012

- Led the Paperless Curriculum Project in coordination with the Vice Provost of Academic Planning, UTS IT Specialist, Faculty Senate Administrative Assistant, and Registrar Coordinator.
- Enhanced the security feature of curriculum proposal forms (pdf files) that are fillable and now saveable using the standard Acrobat Reader. This feature simplifies the process of correcting any error in curriculum proposals.
- Designed university curriculum bulletin calendar schedules for 2011-2012 and 2012-2013.
- For each university curriculum bulletin:
    - Reviewed all undergraduate and graduate curriculum proposals
    - Scheduled hearings for all new programs/majors/tracks
    - Chaired hearings for all eight colleges and coordinated revisions to proposals
    - Presented curriculum-related motions at the Faculty Senate meetings

University Curriculum Committee Member: 2012 – 2013
Participate in curriculum proposal reviews and represented the College of Engineering and Computing in six curriculum bulletin hearings and special curriculum meetings.

Faculty Senator: 2011 – 2013
Represented the faculty of the College of Engineering and Computing at the Faculty Senate meetings.

Faculty Senate Nominating Committee Member: 2011 – 2013
Identified qualified faculty for Faculty Senate positions (chair, vice-chair, secretary, and subcommittee members) and conducted elections for important positions.

Judge for FIU Graduate Student Scholarly Forum: Mar 28, 2011, and Feb 27, 2012
Each year judged eight graduate student research presentations at the forum and provided assessment scores.

Undergraduate Studies Global Learning Foundation Courses Committee Chair: 2010 – 2012

Created a website for the Global Learning Foundation course proposals at http://users.cis.fiu.edu/~prabakar/glfcc and coordinated feedback from the committee members and authors of the course proposals and had five Global Learning courses approved.

Faculty Advisor for Panther Linux User Group: 2009 – 2016
Established the student Linux club in Summer 2009.
Facilitated students to present Linux features in several presentations.
Organized Linux Installation Festivals to promote Linux system to new users in FIU.
Presented "Automated Backup for Linux Systems" (Mar 31, 2011) and on "Virtual Linux" (Sep 6, 2011).
Disseminated PLUG activities through pantherlug@googlegroups.com and http://plug.cis.fiu.edu

Community-wide Service:

Judge for South Florida SECME Olympiad VEX Robotic Competition
Judged 11 VEX Robotic matches on Jan 26, 2013 at Miami-Dade College, North Campus.

Judge for First Tech Challenge Robotic Competition
Reviewed and evaluated 12 Robotic projects on Jan 19, 2013 at Mast Academy, Miami.

Judge for South Florida Regional Science and Engineering Fair
Reviewed and evaluated 24 Science projects on Jan 22, 2011 and Jan 21, 2012 at Miami-Dade College, North Campus.

Judge for ACM High School Programming Competition
Reviewed and evaluated 12 teams on Mar 18, 2005 and 24 teams on Mar 24, 2012.

Open Access Online Tutorial for Computer Science and Engineering Courses
Compiled online video lectures for most computer science and engineering-related courses and made them available at http://motivatemyself.org for all students in the College of Engineering and Computing in Fall 2010 and Fall 2011.

Raised fund ($1,175) for Children in Africa
Fundraised through participation in ING Marathon in Jan 2011.
(http://motivatemyself.org/running)

Raised fund ($1,245) for Haiti Earthquake Relief Efforts
Fundraised through participation in ING Marathon in Jan 2010.
(http://motivatemyself.org/running)

Professional Service:

- Presented an invited talk on "Prospects and Challenges of HCI in Quantum Computing" at the 14th International Conference on Intelligent Human Computer Interaction (IHCI-2022) on Oct 20, 2022.
- Programming Committee Member for the 14th International Conference on Intelligent Human Computer Interaction (2022).
- Programming Committee Member for the 13th International Conference on Intelligent Human Computer Interaction (2021).
- Reviewed four research papers for the International Conference on Intelligent Human Computer Interaction (2021) Conference.
- Chaired the session S4: "Educational Applications of Interactive Computer Systems" of the International Conference on Intelligent Human Computer Interaction (2021) conference, Dec 21, 2021.
- Reviewer for 28th International Conference on Computers and Their Applications (2013).
- Reviewer for Second International conference on Multimedia Information Systems (1997).
- Reviewer for IEEE Computer Journal and Transputer Communications (1994).
- Reviewer for Tools USA'93 conference
- Chair of the session on *Fault Tolerant/Prediction/Correction Schemes (FTPC) for Industrial Automation and Communications*, IEEE Southcon'92 (Orlando, FL, Mar 1992).
- Chair of the session on *Expert Systems I,* ACM/SIGAPP Symposium on Applied Computing (Kansas City, MO, Mar 1992).
- Chair of the session on *Neural Network Theory*, IEEE Region 10 International Conference (New Delhi, Aug 1991).
- Co-Chair of the publicity committee and a member of the organizing committee of *PARBASE-90: International Conference on Databases, Parallel Architectures, and Their Applications* (Miami, Mar 1990):
  - Publicity for the conference in journals
  - Call for paper announcement preparation, typesetting, printing, and distribution
- Programming Committee member of PARBASE-90 conference.
- Chair of the panel session on *The Outstanding Problem for Today's Database Technology*, PARBASE-90 conference (Miami, Mar 1990).
- Chair of the paper session on *Databases: The Logical Level/Languages and Design*, PARBASE-90 conference (Miami, Mar 1990).
- Judge for the ACM Southeast Regional Programming Contest (Miami, Nov 1989).
- Responsible for choosing a programming problem for the contest and evaluating about 40 teams from several universities in the Southeast region of the nation.
- Reviewer for Western Multiconference Object-Oriented Simulation (1991).