
Jun Li, Ph.D.

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PERSONAL INFORMATION

- Citizenship: Chinese
- Permanent Residence: Canadian

RESEARCH INTERESTS

- information theory, distributed computing, machine learning, distributed storage

EDUCATION

- Doctor of Philosophy, September 2012 - June 2017
Department of Electrical and Computer Engineering, University of Toronto
 - ▷ Supervisor: Baochun Li
 - ▷ Supervisory committee: Frank Kschischang and Cristiana Amza
 - ▷ Dissertation: Efficient Erasure Coding in Distributed Storage Systems
- Master of Science, September 2009 - June 2012
School of Computer Science, Fudan University, Shanghai, China
- Bachelor of Science, September 2005 - June 2009
School of Computer Science, Fudan University, Shanghai, China

PROFESSIONAL EXPERIENCE

- Assistant Professor (tenure-track), August 2017 – present
School of Computing and Information Sciences, Florida International University

GRANTS

- [G1] PI, Coding Techniques for Distributed Machine Learning, National Science Foundation, 2019-2022, \$500,000, CCF-1910447.
- [G2] PI, Parallelism-aware Coding for Distributed Storage and Computing, AWS Cloud Credits for Research, 2019, \$9,000.
- [G3] Senior Personnel, REU SITE: ASSET: Research Experiences for Undergraduates in Advanced Secured Sensor Enabling Technologies, National Science Foundation, 2019-2022, \$377,684.
- [G4] PI, Google Cloud Platform Education Grant, 2018, \$2,000.

PUBLICATIONS

- Journal publications

- [J1] **Jun Li**, Baochun Li, “Demand-aware Erasure Coding for Distributed Storage Systems,” to appear in IEEE Transactions on Cloud Computing, 2019.
- [J2] **Jun Li**, Baochun Li, Bo Li, “Efficient Dissemination of Erasure-coded Data in Data Centers”, IEEE Transactions on Emerging Topics in Computing, Vol. 7, no. 8, pp. 468-480, 2019.
- [J3] **Jun Li**, Baochun Li, “Beehive: Erasure Codes for Fixing Multiple Failures in Distributed Storage Systems,” in IEEE Transactions on Parallel and Distributed Systems, vol. 28, no. 5, pp. 1257-1270, May 2017.
- [J4] **Jun Li**, Baochun Li, “Erasure Coding for Cloud Storage Systems: A Survey,” in Tsinghua Science and Technology, vol. 18, no. 3, pp. 259-272, June 2013.

- Conference proceedings and workshop papers

- [C1] Xian Su, Xiaodi Fan, **Jun Li**, “Dynamic Coding for Distributed Matrix Multiplication,” NeurIPS 2019 Workshop on Information Theory and Machine Learning, Vancouver, BC, Canada, December 13, 2019.
- [C2] Pedro Soto, **Jun Li**, Xiaodi Fan, “Dual Entangled Polynomial Code: Three-Dimensional Coding for Distributed Matrix Multiplication,” in Proc. of the 36th International Conference on Machine Learning (ICML), Long Beach, CA, June 10-13, 2019 (acceptance ratio: 22.6%).
- [C3] **Jun Li**, Baochun Li, “Parallelism-Aware Locally Repairable Code for Distributed Storage Systems”, in Proc. of the 38th IEEE International Conference on Distributed Computing Systems (ICDCS), Vienna, Austria, July 2-5, 2018 (acceptance ratio: 20%).
- [C4] **Jun Li**, Baochun Li, “On Data Parallelism of Erasure Coding in Distributed Storage Systems,” in Proc. of the 37th IEEE International Conference on Distributed Computing (ICDCS), Atlanta, GA, June 5-8, 2017 (acceptance ratio: 16.9%).
- [C5] Wei Wang, Baochun Li, Ben Liang, **Jun Li**, “Multi-Resource Fair Sharing for Datacenter Jobs with Placement Constraints,” in Proc. of the International Conference for High Performance Computing, Networking, Storage and Analysis (SC), Salt Lake City, UT, November 13-18, 2016, pp. 1-12 (acceptance ratio: 18%).
- [C6] **Jun Li**, Baochun Li, “Zebra: Demand-aware Erasure Coding for Distributed Storage Systems,” in Proc. of the 24th IEEE/ACM International Symposium on Quality of Service (IWQoS), Beijing, China, June 20-21, 2016, pp. 1-10 (acceptance ratio: 21%).
- [C7] Wei Wang, Baochun Li, Ben Liang, **Jun Li**, “Towards Multi-Resource Fair Allocation with Placement Constraints,” in Proc. of ACM SIGMETRICS 2016 (2-page poster paper), Antibes Juan-les-Pins, France, June 14-18, 2016, pp. 415-416 (acceptance ratio: 24%).

- [C8] **Jun Li**, Baochun Li, “Beehive: Erasure Codes for Fixing Multiple Failures in Distributed Storage Systems,” in Proc. of the USENIX Workshop on Hot Topics in Storage and File Systems (HotStorage), Santa Clara, CA, July 6-7, 2015 (acceptance ratio: 30%).
- [C9] **Jun Li**, Baochun Li, “Cooperative Repair with Minimum-Storage Regenerating Codes for Distributed Storage,” in Proc. of the IEEE Conference on Computer Communications (INFOCOM), Toronto, ON, April 27 - May. 2, 2014, pp. 316-324 (acceptance ratio: 19%).
- [C10] **Jun Li**, Xin Wang, and Baochun Li, “Cooperative Pipelined Regeneration in Distributed Storage Systems,” in Proc. of the IEEE Conference on Computer Communications (INFOCOM), Turin, Italy, April 14-19, 2013, pp. 2346-2354 (acceptance ratio: 17%).
- [C11] **Jun Li**, Xin Wang, and Baochun Li, “Pipelined Regeneration with Regenerating Codes for Distributed Storage Systems,” in Proc. of International Symposium on Network Coding (NetCod), Beijing, China, July 25-27, 2011, pp. 1-6.
- [C12] **Jun Li**, Shuang Yang, Xin Wang, “Building Regeneration Trees in Distributed Storage Systems with Asymmetric Links,” in Proc. of the 6th International Conference on Collaborative Computing: Networking, Applications, and Worksharing (CollaborateCom 2010), Chicago, IL, October 9-12, 2010, pp. 1-10 (acceptance ratio: 37%).
- [C13] Markus Kliegl, Jason Lee, **Jun Li**, Xinchao Zhang, Chuanxiong Guo, David Rincón, “Generalized DCell Structure for Load-Balanced Data Center Network,” in Proc. of the 29th IEEE Conference on Computer Communications (INFOCOM), Work-In-Progress Track, San Diego, CA, March 15-19, 2010, pp. 1-5 (acceptance ratio: 28%).
– The first four authors share equal contributions.
- [C14] **Jun Li**, Shuang Yang, Xin Wang, Baochun Li, “Tree-structured Data Regeneration in Distributed Storage Systems with Regenerating Codes,” in Proc. of the IEEE Conference on Computer Communications (INFOCOM), San Diego, CA, March 15-19, 2010, pp. 1-9 (acceptance ratio: 17%).
- [C15] **Jun Li**, Shuang Yang, Xin Wang, Xiangyang Xue, Baochun Li, “Tree-structured Data Regeneration with Network Coding in Distributed Storage Systems,” in Proc. of the 17th IEEE International Workshop on Quality of Service (IWQoS), Charleston, SC, July 13-15, 2009, pp. 1-9 (acceptance ratio: 33%).
- Technical Reports
- [TR1] Markus Kliegl, Jason Lee, **Jun Li**, Xinchao Zhang, David Rincón, Chuanxiong Guo, “The Generalized DCell Network Structures and Their Graph Properties,” Microsoft Research TechReport, MSR-TR-2009-140.

PRESENTATIONS

- [P1] “Dual Entangled Polynomial Code: Three-Dimensional Coding for Distributed Matrix Multiplication,” Research Seminar, McMaster University, Hamilton, ON, Canada, July 27, 2019.
- [P2] “Parallelism-aware Locally Repairable Code for Distributed Storage Systems,” Research Seminar, Fudan University, Shanghai, China, August 9, 2018.
- [P3] “Parallelism-aware Locally Repairable Code for Distributed Storage Systems,” Oral Presentation, IEEE International Conference on Distributed Computing Systems (ICDCS), Vienna, Austria, July 4, 2018.
- [P4] “Erasure Coding for Distributed Storage Systems,” Oral Presentation, FIU SCIS’s Faculty Seminar Series, Miami, FL, February 9, 2018.
- [P5] “On Data Parallelism of Erasure Coding in Distributed Storage Systems,” Oral Presentation, IEEE International Conference on Distributed Computing Systems (ICDCS), Atlanta, GA, June 6, 2017.
- [P6] “Erasure Coding in Distributed Storage Systems with Optimal Network Overhead,” Invited Research Talk, Shanghai Jiao Tong University, Shanghai, China, March 23, 2017.
- [P7] “Erasure Coding in Distributed Storage Systems with Optimal Network Overhead,” Invited Research Talk, Florida International University, Miami, FL, March 6, 2017.
- [P8] “Erasure Coding in Distributed Storage Systems with Optimal Network Overhead,” Invited Research Talk, Queen’s University Belfast, Belfast, United Kingdom, February 2, 2017.
- [P9] “Zebra: Demand-aware Erasure Coding for Distributed Storage Systems,” Poster Presentation, SAVI Annual General Meeting, Toronto, ON, July 6, 2016.
- [P10] “Zebra: Demand-aware Erasure Coding for Distributed Storage Systems,” Oral Presentation, IEEE/ACM International Symposium on Quality of Service (IWQoS), Beijing, China, June 20, 2016.
- [P11] “Beehive: Erasure Codes for Fixing Multiple Failures in Distributed Storage Systems,” Oral Presentation, USENIX Workshop on Hot Topics in Storage and File Systems (HotStorage), Santa Clara, CA, July 6, 2015.
- [P12] “Repairing Erasure Codes Cooperatively in Storage-Intensive Applications,” Poster Presentation, SAVI Annual General Meeting, Toronto, ON, July 7, 2014.
- [P13] “Cooperative Repair with Minimum-Storage Regenerating Codes for Distributed Storage,” Oral Presentation, IEEE Conference on Computer Communications (INFOCOM), Toronto, ON, April 29, 2014.
- [P14] “Cooperative Pipelined Regeneration in Distributed Storage Systems,” Oral and Poster Presentation, Annual ECE Connections Graduate Symposium, Toronto, ON, May 7, 2013.
- [P15] “Cooperative Pipelined Regeneration in Distributed Storage Systems,” Oral Presentation, IEEE Conference on Computer Communications (INFOCOM), Turin, Italy, April 18, 2013.

- [P16] “Pipelined Regeneration with Regenerating Codes for Distributed Storage Systems,” Oral Presentation, International Symposium on Network Coding (NetCod), Beijing, China, July 25, 2011.
- [P17] “Tree-structured Data Regeneration in Distributed Storage Systems with Regenerating Codes,” Oral Presentation, IEEE Conference on Computer Communications (INFOCOM), San Diego, CA, March 18, 2010.
- [P18] “Generalized DCell Structure for Load-Balanced Data Center Network,” Oral Presentation, IEEE Conference on Computer Communications (INFOCOM), San Diego, CA, March 15, 2010.
- [P19] “Router-supported Data Regeneration in Distributed Storage Systems,” Poster Presentation, USENIX Conference on File and Storage Technologies (FAST), San Jose, CA, February 24, 2010.
- [P20] “Router Caching for Video Streaming Systems”, Poster Presentation, USENIX Conference on File and Storage Technologies (FAST), San Jose, CA, February 24, 2010.
- [P21] “A Fast-repair P2P Data Backup System with Network Coding,” Oral Presentation, Universitas 21 (U21) Undergraduate Research Conference, Glasgow, UK, October 20, 2009.
- [P22] “Tree-structured Data Regeneration with Network Coding in Distributed Storage Systems,” Oral Presentation, IEEE International Workshop on Quality of Service (IWQoS), Charleston, SC, July 13, 2009.

HONORS & AWARDS

- Doctoral Completion Award, University of Toronto, 2016
- USENIX FAST '16 Student Travel Grant, 2016
- USENIX ATC '15 Student Travel Grant, 2015
- Shanghai Outstanding Achievement of Graduate Students (Master Thesis), 2015
- USENIX FAST '15 Student Travel Grant, 2015
- ECE Fellowship, University of Toronto, 2012-2015
- SGS Conference Grant, University of Toronto, 2013
- Scholarship for Graduate Students, 1st Prize, Fudan University, 2011, 2010
- Morgan Stanley Scholarship, 2010
- Google Excellence Scholarship, 2010
- Scholarship for Freshmen, 1st Prize, Fudan University, 2009

- Outstanding Graduate of Fudan University, 2009
- Excellent Bachelor Thesis, Fudan University, 2009
- Wangdao Scholarship, Fudan University, Summer, 2009
- People's Scholarship, 2nd Prize, Fudan University, Autumn, 2009, 2008, 2007, 2006
- Excellent Student Award of Media Computing and Web Intelligence Lab, Fudan University, 2008

PROFESSIONAL ACTIVITIES

- Review for Journal/Conference Manuscript Submissions
 - ACM Transactions on Modeling and Performance Evaluation of Computing Systems (2019)
 - IEEE Transactions on Computers (2018, 2019)
 - IEEE Transactions on Cloud Computing (2014, 2015, 2017, 2018, 2019)
 - IEEE Transactions on Network and Service Management (2018, 2019)
 - ACM Transactions on Storage (2016, 2019)
 - IEEE Symposium on Information Theory (2019)
 - IEEE Transactions on Mobile Computing (2015, 2016, 2017, 2018, 2019)
 - IEEE Transactions on Parallel and Distributed Systems (2018)
 - Frontiers of Computer Science (2017, 2018)
 - IEEE Communications Letters (2016)
 - Springer Multimedia System (2016)
 - PeerJ Computer Science (2016)
- Conference Committees
 - Grace Hopper Celebration 2018, Faculty Committee
 - IEEE ICC 2018 Workshop - Information Centric Networking Solutions for Real World Applications (ICNS), Program Committee
- Review for Funding Agencies
 - NSF (2018)
- Membership:
 - IEEE member, 2013 - present
 - USENIX member, 2015 - present

TEACHING

- CDA 3103: Fundamentals of Computer Systems, Florida International University (Spring 2018, Spring 2019, Fall 2019)
- CEN 4083: Introduction to Cloud Computing, Florida International University (Fall 2018)

MENTORSHIP

- Students in the Ph.D. Program
 - Pedro Soto Fall 2018 – present
 - Xiaodi Fan Fall 2018 – present
 - Xian Su Fall 2019 – present
- Students in the Master Program
 - Dan Xi Master in Information Technology Spring 2019 – present
 - Zhongzhou Li Master in Computer Engineering Summer 2018 – Fall 2018
 - Ipsita Acharya Master in Computer Engineering Spring 2018 – Summer 2018
- Students in Other Programs
 - Stephania Ramirez M-DCPS Summer Youth Internship Summer 2019
 - Jesus Vento M-DCPS Summer Youth Internship Summer 2018
 - Christopher Del Rey M-DCPS Summer Youth Internship Summer 2018
- Visiting Scholars
 - Xiaomei Zhong East China Jiao Tong Univeristy Spring 2019 – present
 - Yan Wang East China Jiao Tong University Spring 2018 – Spring 2019