Anxiao (Andrew) Jiang

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Department of Computer Science and Engineering
Texas A&M University
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Research Areas

Deep learning, information theory, memory and data storage, algorithm design.

Education

Sep 2000 – June 2004	Ph.D. in Electrical Engineering (Parallel and Distributed Systems Lab) **California Institute of Technology**, Pasadena, CA Overall GPA: 4.2/4.0
Sep 1999 – June 2000	M.S. in Electrical Engineering (Parallel and Distributed Systems Lab) **California Institute of Technology**, Pasadena, CA Overall GPA: 4.1/4.0
Sep 1994 – July 1999	B.S. in Electronic Engineering, **Tsinghua University**, Beijing, China Major in Electronic and Information Systems, 5-year program Bachelor degree with honors.

Experience

Sep 2019 – present	Professor, Computer Science and Engineering Department, Texas A&M University
Sep 2019 – present	Professor (courtesy appointment), Electrical and Computer Engineering Department, Texas A&M University
Sep 2011 – Aug 2019	Associate Professor, Computer Science and Engineering Department, Texas A&M University
Nov 2013 – Aug 2019	Associate Professor (courtesy appointment), Electrical and Computer Engineering Department, Texas A&M University
Nov 2012 – Jan 2013	Visiting Associate at California Institute of Technology
Nov 2012	Visiting Professor at University of California, San Diego
Aug 2012 – Oct 2012	Visiting Professor at EPFL, Lausanne, Switzerland
May 2012	Visiting Scholar at Data Storage Institute (DSI), Singapore
Aug 2005 – Aug 2011	Assistant Professor, Computer Science and Engineering Department, Texas A&M University
June 2011 – July 2011	Consulting Researcher, HP Labs
Aug 2009 – Apr 2010	Consulting Researcher, EMC Corporation
June 2009	Consulting Researcher, Microsoft Research in Redmond
July 2008 – Aug 2008	Visiting Associate at the CMI (Center for the Mathematics of Information), California Institute of Technology
July 2004 – July 2005	Postdoctoral Fellow, Electrical Engineering Department, California Institute of Technology

Teaching Experience

Faculty Member	Department of Computer Science and Engineering, **Texas A&M University** Analysis of Algorithms, Database Systems, Ad hoc and Sensor Networks, Wireless Sensor Networks, Information Processing in Sensor Networks, Frontiers in Storage Systems

Honors and Awards

2018	Award for second place in ECCV'2018 Chalearn LAP Inpainting Competition Track 3: Fingerprint Denoising and Inpainting
2012 - present	IEEE Senior Member
2012 - 2013	Graduate Faculty Teaching Excellence Award, Computer Science and Engineering Department, Texas A&M University
2010	The 2009 IEEE Communications Society Best Paper Award in *Signal Processing and Coding for Data Storage*
2008	NSF (National Science Foundation) CAREER Award
1999	Caltech Shannon Prize
1999	B.S. degree with Honors, Tsinghua University
1996	Honor of Distinguished Undergraduate Student of Tsinghua University

Research Funding

NSF CIF (Communications and Information Foundations) Fund, 2017-2020.

TAMU T3 (Triads for Transformation) Fund, 2017.

Gift Research Funding of Huawei Corporation, 2016-2017

University Research Program (URP) of LSI Corporation, 2013-2015

NSF CIF (Communications and Information Foundations) Fund, 2012-2016

US-Israel Binational Science Foundation Award, 2011-2016

NSF CAREER Award, 2008-2013

NSF IHCS (Integrative, Hybrid and Complex Systems) Fund, 2008-2012

Patents

US patent No. 10,379,945, "Asymmetric Error Correction and Flash-Memory Rewriting Using Polar Codes," E. En Gad, Y. Li, J. Kliewer, M. Langberg, A. Jiang and J. Bruck, issued on 8/13/2019.

US patent No. 9,983,808, "NAND Flash Reliability with Rank Modulation," Y. Li, E. En Gad, A. Jiang and J. Bruck, issued on 5/29/2018.

US patent No. 9,946,475, "Joint Rewriting and Error Correction in Write-Once Memories," A. Jiang, Y. Li, E. En Gad, M. Langberg and J. Bruck, issued on 4/17/2018.

US patent No. 9,916,197, "Rank-Modulation Rewriting Codes for Flash Memories," A. Jiang, E. En Gad, J. Bruck and E. Yaakobi, issued on 3/13/2018.

US patent No. 9,666,280, "Flash Memories Using Minimum Push Up, Multi-Cell and Multi-Permutation Schemes for Data Storage," A. Jiang, E. En Gad and J. Bruck, issued on 5/30/2017.

South Korea patent US-857972-04-KR-NAT, "Joint Rewriting and Error Correction in Write-Once Memories," A. Jiang, J. Bruck, E. En Gad, M. Langberg and Y. Li, issued on 2/24/2017.

US patent No. 9,230,652, "Flash Memories using Minimum Push Up, Multi-Cell and Multi-Permutation Schemes for Data Storage," A. Jiang, E. En Gad and J. Bruck, issued on 1/5/2016.

US patent No. 9,086,955, "Rank-Modulation Rewriting Codes for Flash Memories," A. Jiang, E. En Gad, J. Bruck, and E. Yaakobi, issued on 7/21/2015.

US patent No. 8,780,620, "Information Representation and Coding for Nonvolatile Memories," A. Jiang, J. Bruck, Z. Wang, and H. Zhou, issued on 7/15/2014.

US patent No. 8,245,094, "Rank Modulation for Flash Memories," A. Jiang, R. Mateescu, M. Schwartz, and J. Bruck, issued on 8/14/2012.

US patent No. 8,225,180, "Error Correcting Codes for Rank Modulation," A. Jiang, M. Schwartz, and J. Bruck, issued on 7/17/2012.

US patent No. 7,752,332, "Geometric Routing in Wireless Networks," A. Jiang, J. Gao and J. Bruck, issued on 7/6/2010.

US patent No. 7,656,706, "Storing Information in a Memory," A. Jiang, V. Bohossian and J. Bruck, issued on 2/2/2010.

Seven additional non-provisional and provisional patents.

Selected Talks and Research Impact

"Coding for Flash and Nonvolatile Memories," Department of Electrical and Computer Engineering Seminar, Prairie View A&M University, November 2017.

"Exploring New Coding Theories for Data Storage: Nonvolatile Memories and Redundancy Mining," 1st IEEE Seminar on Future Directions in Information Theory and Communications, August 2015.

"Exploring New Coding Theories for Data Storage: Language Processing and Nonvolatile Memories," Department of Computer Science Colloquium, Hong Kong Baptist University, June 2015.

"Making Error Correcting Codes Work for Flash Memory," 3-Hour Tutorial at Flash Memory Summit, jointly with Steven R. Hetzler and Lara Dolecek, August 2014.

"Channel Coding Methods for Emerging Data Storage and Memory Systems: Opportunities to Innovate Beyond the Hamming Metric," 3-Hour Tutorial at IEEE International Symposium on Information Theory (ISIT), jointly with Lara Dolecek, June 2014.

"Making Error Correcting Codes Work for Flash Memory," 3-Hour Tutorial at Flash Memory Summit, jointly with Charles Camp and Lara Dolecek, August 2013.

"Signal Processing and Coding for Non-Volatile Memories," 3-Hour Tutorial at Non-Volatile Memories Workshop (NVMW), jointly with Jason Bellorado and Eitan Yaakobi, March 2013.

"New Coding Methods for Nonvolatile Memories," Caltech IST Seminar, January 2013.

"New Coding Methods for Nonvolatile Memories," Seminar at University of California, Los Angeles (UCLA), November 2012.

"New Coding Methods for Nonvolatile Memories," Center for Magnetic Recording Research (CMRR) Seminar, UC San Diego, November 2012.

"Coding Methods for Nonvolatile Memories," Seminar at LSI, November 2012.

"Coding Methods for Emerging Storage Systems," 3-Hour Tutorial at Asilomar Conference on Signals, Systems and Computers, jointly with Lara Dolecek, November 2012.

"Coding for Flash Memories," Seminar at Singapore Data Storage Institute (DSI), May 2012.

"Coding for Flash Memories," Seminar at IBM Almaden Research Center, July 2011.

"Coding for Flash Memories," HP Labs Research Seminar, June 2011.

"Coding for Flash Memories," CS Seminar, University of Massachusetts at Amherst, September 2009.

"Coding for Flash Memories," IBM Research Seminar, September 2009.

"Flash Memories: Properties and Algorithms," EMC seminar, August 2009.

"Coding for Flash Memories," Microsoft Research Talk Series, June 2009.

"Coding for Flash Memories," JPL-Caltech seminar, May 2009.

"Coding for Flash Memories," ECE Colloquium, University of Minnesota, January, 2009.

"Coding for Flash Memories," ECE Colloquium, Rice University, November, 2008.

"Network Data Storage and Topology Control," Hitachi Global Storage Technologies Research Center, San Jose, CA, October, 2004.

"High-performance File Allocation," NEC Laboratories America, Princeton, NJ, May, 2004.

"Interleaving for Network Data Storage," Networking, Communications and DSP Seminar, University of California, Berkeley, November, 2003.

"Dispersed Information Storage for Performance and Reliability," Information Science and Technology Seminar, California Institute of Technology, February, 2002.

Various talks at conferences (INFOCOM, ISIT, etc.) and universities.

Pioneered research on new coding theories for flash memories, including codes for rewriting data (floating codes, buffer codes, trajectory codes, etc.), rank modulation, coding-based data movement, error-scrubbing codes, etc.

The recent research on new coding theories for flash memories has interested both academia and industry. A series of new sessions in academic conferences have started in recent years, including a session entitled "Coding for Flash Memories" in the 2008 IEEE International Symposium on Information Theory (ISIT'08), a session entitled "Coding for Memories" in the 2009 Information Theory and Applications Workshop (ITA'09), a session entitled "Coding for Storage" in ISIT'09, two sessions entitled "Error-correcting Codes for Flash Memories" and "Coding for Memories" in ITA'10, two sessions entitled "Rank Modulation" and "Coding for Memories" in ISIT'10, a session entitled "Coding for Memories" in ITW'10, two sessions entitled "Coding for Storage" and "New Coding Applications" in ITA'11, four sessions entitled "Coding for Memories" and one session entitled "Storage Capacities" at ISIT'11, etc.

Professional Service

Associate Editor for *IEEE Transactions on Information Theory*, 2017 to 2020.

IEEE Communications Society Data Storage Technical Committee, Member, 2010 to current time.

Chair, IEEE Data Storage Best Paper Award Committee, 2019 and 2020.

Technical Program Committee, Member, International Conference on Recent Advances in Signal Processing, Telecommunications and Computing (SigTelCom), Ha Noi, Vietnam, August 2020.

Technical Program Committee, Member, IEEE International Conference on Communications (ICC), SAC Cloud & Fog Computing, Networking, and Storage Track, Dublin, Ireland, June 2020.

Technical Program Committee, Member, IEEE International Conference on Communications (ICC), Mobile and Wireless Networks Symposium, Dublin, Ireland, June 2020.

Technical Program Committee, Member, IEEE Wireless Communications and Networking Conference (WCNC), Seoul, South Korea, April 2020.

Technical Program Committee, Member, 11th Non-volatile Memories Workshop (NVMW), San Diego, CA, March 2020.

Technical Program Committee, Member, 34th International Conference on Information Networking (ICOIN), Barcelona, Spain, January 2020.

Co-Chair, IEEE Globecom SAC (Selected Areas in Communications) Symposium, Hawaii, USA, December 2019.

Technical Program Committee, Member, IEEE International Symposium on Personal, Indoor and Mobile Radio Communications (PIMRC), Istanbul, Turkey, September 2019.

Technical Program Committee, Member, IEEE International Conference on Communications (ICC), Area of Data Storage, Shanghai, China, May 2019.

Technical Program Committee, Member, IEEE International Conference on Communications (ICC), Mobile and Wireless Networks Symposium, Shanghai, China, May 2019.

Co-Chair, Non-Volatile Memories Workshop (NVMW), San Diego, CA, March 2019.

Technical Program Committee, Member, International Conference on Recent Advances in Signal Processing, Telecommunications and Computing (SigTelCom), Ha Noi, Vietnam, March 2019.

Technical Program Committee, Member, IEEE Globecom, SAC-CCNS (Selected Areas in Cloud Computing, Networking and Storage), Abu Dhabi, UAE, December 2018.

Technical Program Committee, Member, 10th International Conference on Knowledge and Systems Engineering, Ho Chi Minh City, Vietnam, November 2018.

Technical Program Committee, Member, IEEE International Symposium on Personal, Indoor and Mobile Radio Communications (PIMRC), Bologna, Italy, September 2018.

Technical Program Committee, Member, IEEE International Conference on Distributed Computing in Sensor System (DCOSS), New York, NY, June 2018.

Technical Program Committee, Member, IEEE International Conference on Selected Topics in Mobile and Wireless Networking (MoWNet), Tangier, Morocco, June 2018.

Technical Program Committee, Member, IEEE International Conference on Communications (ICC), Area of Data Storage, Kansas City, MO, USA, May 2018.

Technical Program Committee, Member, IEEE International Conference on Communications (ICC), Area of Wireless Networking, Kansas City, MO, USA, May 2018.

Technical Program Committee, Member, 9th Non-volatile Memories Workshop (NVMW), San Diego, CA, March 2018.

Technical Program Committee, Member, 2nd International Conference on Recent Advances in Signal Processing, Telecommunications and Computing (SigTelCom), Ho Chi Minh, Vietnam, January 2018.

Technical Program Committee, Member, IEEE Globecom, SAC-Data Storage (Selected Areas in Communications Symposium on Data Storage), Singapore, December 2017.

Technical Program Committee, Member, IEEE International Symposium on Personal, Indoor and Mobile Radio Communications (PIMRC), Montreal, Canada, October 2017.

Technical Program Committee, Member, IEEE International Conference on Distributed Computing in Sensor System (DCOSS), Ottawa, Canada, June 2017.

Technical Program Committee, Member, IEEE International Conference on Selected Topics in Mobile and Wireless Networking (MoWNet), Avignon, France, May 2017.

Technical Program Committee, Member, IEEE Globecom, SAC-Data Storage (Selected Areas in Communications Symposium on Data Storage), Washington, DC, USA, December 2016.

Technical Program Committee, Member, IEEE International Symposium on Personal, Indoor and Mobile Radio Communications (PIMRC), Valencia, Spain, September 2016.

Technical Program Committee, Member, International Symposium on Intelligent Systems Technologies and Applications (ISTA), Jaipur, India, September 2016.

Technical Program Committee, Member, IEEE International Conference on Selected Topics in Mobile and Wireless Networking (MoWNet), Cairo, Egypt, April 2016.

Technical Program Committee, Member, IEEE Wireless Communications and Networking Conference (WCNC), Doha, Qatar, April 2016.

Technical Program Committee, Member, 7th Non-volatile Memories Workshop (NVMW), San Diego, CA, March 2016.

Technical Program Committee, Member, IEEE Globecom, San Diego, CA, USA, December 2015.

Organizer on Academics, Flash Memory Summit, Santa Clara, CA, August 2015.

Technical Program Committee, Member, IEEE International Conference on Advances in Computing, Communication and Informatics, Special Session on Intelligent Information Retrieval, Kerela, India, August 2015.

Chair of Track, IEEE International Conference on Distributed Computing in Sensor System (DCOSS), Signal Processing and Information Theory Track, Fortaleza, Brazil, June 2015.

Technical Program Committee, Member, IEEE International Symposium on Information Theory (ISIT), Hong Kong, June 2015.

Technical Program Committee, Member, IEEE International Conference on Communications (ICC), Mobile and Wireless Networking Symposium (MWN), London, UK, June 2015.

Technical Program Committee, Member, 6th Non-volatile Memories Workshop (NVMW), San Diego, CA, March 2015.

Technical Program Committee, Member, IEEE Wireless Communications and Networking Conference (WCNC) - Network Track, New Orleans, LA, March 2015.

Technical Program Committee, Member, IEEE Globecom, SAC-Data Storage (Selected Areas in Communications Symposium on Data Storage), Austin, TX, USA, December 2014.

Technical Program Committee, Member, IEEE Globecom, Wireless Networking Symposium (WN), Austin, TX, USA, December 2014.

Technical Program Committee, Member, 3rd International Conference on Advances in Computing, Communications and Informatics (ICACCI) – International Workshop on Big Data Search and Mining (IWBSM), Delhi, India, September 2014.

Technical Program Committee, Member, IEEE International Conference on Selected Topics in Mobile and Wireless Networking (MoWNet), Rome, Italy, September 2014.

Technical Program Committee, Member, IEEE International Symposium on Information Theory (ISIT), Honolulu, Hawaii, June to July, 2014.

Technical Program Committee, Member, IEEE International Conference on Communications (ICC), Mobile and Wireless Networking Symposium (MWN), Sydney, Australia, June 2014.

Technical Program Committee, Member, IEEE International Conference on Communications (ICC), Ad-hoc and Sensor Networking Symposium (AHSN), Sydney, Australia, June 2014.

Guest Editor, *IEEE Journal on Selected Areas in Communications (JSAC), Special Issue on Communication Methodologies for the Next-Generation Storage Systems*, May, 2014.

Technical Program Committee, Member, IEEE International Conference on Distributed Computing in Sensor Systems (DCOSS) – Algorithms and Performance Analysis Track, Marina Del Rey, CA, May 2014.

Technical Program Committee, Member, IEEE Wireless Communications and Networking Conference (WCNC) - NET Track, Istanbul, Turkey, April 2014.

Technical Program Committee, Member, 5th Non-volatile Memories Workshop (NVMW), San Diego, CA, March 2014.

Technical Program Committee, Member, IEEE Globecom, SAC-Data Storage (Selected Areas in Communications Symposium on Data Storage), Atlanta, GA, USA, December 2013.

Technical Program Committee, Member, IEEE Globecom, Ad-hoc and Sensor Networking Symposium (AHSN), Atlanta, GA, USA, December 2013.

Technical Program Committee, Member, IEEE Globecom, Wireless Networking Symposium (WN), Atlanta, GA, USA, December 2013.

Technical Program Committee, Member, IEEE International Symposium on Personal, Indoor and Mobile Radio Communications (PIMRC), London, UK, September 2013.

Technical Program Committee, Member, IEEE International Conference on Selected Topics in Mobile and Wireless Networking (MoWNet), Montreal, Canada, August 2013.

Technical Program Committee, Member, IEEE International Conference on Communications - Selected Areas in Communications Symposium (ICC'2013-SAC), Data Storage Track, Budapest, Hungary, June 2013.

Technical Program Committee, Member, IEEE International Conference on Communications - Ad-hoc and Sensor Networking Symposium (ICC'2013-AHSN), Budapest, Hungary, June 2013.

Technical Program Committee, Member, IEEE International Conference on Communications - Wireless Networking Symposium (ICC'2013-WN), Budapest, Hungary, June 2013.

Technical Program Committee, Member, IEEE International Conference on Distributed Computing in Sensor Systems (DCOSS), Cambridge, MA, USA, May 2013.

Technical Program Committee, Member, IEEE Wireless Communications and Networking Conference (WCNC), Shanghai, China, April 2013.

Technical Program Committee, Member, 4th Non-volatile Memories Workshop (NVMW), San Diego, CA, March 2013.

Technical Program Committee, Member, International Conference on Computing, Networking and Communications, Technology and Applications Symposium (ICNC-DSTA), San Diego, CA, USA, January 2013.

Guest Editor, *EURASIP Journal on Advances in Signal Processing, Special Issue on Coding and Signal Processing for Non-volatile Memories*, 2012.

Technical Program Committee, Member, IEEE Globecom, Ad-hoc and Sensor Networking Symposium (AHSN), Anaheim, CA, USA, December 2012.

Technical Program Committee, Member, IEEE International Symposium on Personal, Indoor and Mobile Radio Communications (PIMRC), Sydney, Australia, September 2012.

Technical Program Committee, Member, 1st IEEE International Conference on Communications in China: Communications QoS and Reliability (ICCC'12-CQR), Beijing, China, August 2012.

Technical Program Committee, Member, IEEE International Conference on Computer Communication Networks (ICCCN 2012), Munich, Germany, July-August 2012.

Technical Program Committee, Member, International Conference on Selected Topics in Mobile and Wireless Networking (iCOST), Avignon, France, July 2012.

Technical Program Committee, Member, IEEE International Conference on Communications - Workshop on Emerging Data Storage Technologies (ICC'2012-WS), Ottawa, Canada, June 2012.

Technical Program Committee, Member, IEEE International Conference on Communications - Wireless Networks Symposium (ICC'2012-WN), Ottawa, Canada, June 2012.

Technical Program Committee, Member, IEEE International Conference on Communications - Ad-hoc and Sensor Networking Symposium (ICC'2012-AHSN), Ottawa, Canada, June 2012.

Technical Program Committee, Member, IEEE International Conference on Distributed Computing in Sensor Systems (DCOSS), Hangzhou, China, May 2012.

Technical Program Committee, Member, 3rd Non-volatile Memories Workshop (NVMW), San Diego, CA, March 2012.

Organizing Committee, Co-chair of Symposium on Data Storage for Communications, IEEE International Conference on Computing, Networking and Communications (ICNC 2012), Maui, Hawaii, January 2012.

Technical Program Committee, Member, IEEE Globecom, Selected Areas in Communications Symposium (SAS), Data Storage Track, Houston, TX, USA, December 2011.

Technical Program Committee, Member, IEEE Globecom, Ad-hoc and Sensor Networking Symposium (AHSN), Houston, TX, USA, December 2011.

Technical Program Committee, Member, International Conference on Selected Topics in Mobile and Wireless Networking (iCOST), Shanghai, China, October 2011.

Technical Program Committee, Member, IEEE International Conference on Computer Communication Networks (ICCCN 2011), Maui, Hawaii, August 2011.

Technical Program Committee, Member, IEEE International Conference on Communications - Ad-hoc, Sensor and Mesh Networking Symposium (ICC'2011-AHSM), Kyoto, Japan, June 2011.

Technical Program Committee, Member, IEEE International Conference on Communications - Wireless Networking Symposium (ICC'2011-WNS), Kyoto, Japan, June 2011.

Technical Program Committee, Member, 2nd Non-volatile Memories Workshop (NVMW), San Diego, CA, March 2011.

Technical Program Committee, Member, IEEE Wireless Communications & Networking Conference (WCNC), Cancun, Mexico, March 2011.

Chair, IEEE Communications Society 2010 Best Paper Award Committee on Data Storage, 2011.

Organizing Committee, co-organizer and co-chair, IEEE Global Communications Conference - Workshop on The Application of Communication Theory to Emerging Memory Technologies, Miami, Florida, USA, December 2010.

Technical Program Committee, Member, International Conference on Mobile Ad-hoc and Sensor Networks (MSN), China, December 2010.

Technical Program Committee, Member, IEEE Globecom, Miami, Florida, USA, December 2010.

Technical Program Committee, Member, International Symposium on Stabilization, Safety and Security of Distributed Systems (SSS 2010), New York, USA, September 2010.

Technical Program Committee, Member, IEEE International Conference on Computer Communication Networks (ICCCN 2010), Zurich, Switzerland, August 2010.

Technical Program Committee, Member, IEEE International Conference on Communications - Ad-hoc, Sensor and Mesh Networking Symposium (ICC'2010-AHS), Cape Town, South Africa, May 2010.

Technical Program Committee, Member, International Conference on Mobile Ad-hoc and Sensor Networks (MSN), China, December 2009.

Technical Program Committee, Member, IEEE International Conference on Computer Communication and Networks (ICCCN 2009), San Francisco, CA, USA, August 2009.

Technical Program Committee, Member, IEEE International Conference on Communications - Adhoc and Sensor Networking Symposium (ICC'2009-AHSNET), Dresden, Germany, June 2009.

Technical Program Committee, Member, International Conference on Mobile Ad-hoc and Sensor Networks (MSN), Wuhan, China, December 2008.

Technical Program Committee, Member, 7th IEEE International Symposium on Network Computing and Applications (NCA2008), Cambridge, MA, USA, July 2008.

Technical Program Committee, Member, IEEE NCA2006 - Workshop on Trustworthy Network Computing, Cambridge, MA, USA, July 2006.

Panelist for NSF (National Science Foundation), ISF (Israel Science Foundation), GIF (German-Israeli Foundation) and BSF (Israel Binational Science Foundation).

Other Professional Activities

Gave talks at various academic conferences and workshops.

Peer reviewer for top academic journals and conferences, including ACM Transactions on Sensor Networks, ACM Transactions on Storage, Algorithmica, IEEE Transactions on Computers, IEEE Transactions on Information Theory, IEEE Transactions on Mobile Computing, IEEE Transactions on Parallel and Distributed Systems, IEEE Journal on Selected Areas in Communications, SIAM Journal on Discrete Mathematics, IEEE ISIT, IEEE INFOCOM, IEEE ICCCN, IEEE ICDCS, International Conference on Dependable Systems and Networks, International Conference on Information Processing in Sensor Networks, etc.

Publications

On deep learning and information theory

P. Upadhyaya and A. Jiang, Representation-Oblivious Error Correction by Natural Redundancy, to appear in *Proc. IEEE International Conference on Communications (ICC)*, Shanghai, China, May 2019.

R. Prabhu, X. Yu, Z. Wang, D. Liu and A. Jiang, U-Finger: Multi-Scale Dilated Convolutional Network for Fingerprint Image Denoising and Inpainting, to appear in book *The Springer Series on Challenges in Machine Learning*, April 2019.

P. Upadhyaya and A. Jiang, File Type Recognition and Error Correction for NVMs with Deep Learning, to appear in *Proc. Non-Volatile Memories Workshop (NVMW)*, San Diego, CA, March 2019.

P. Upadhyaya, X. Yu, J. Mink, J. Cordero, P. Parmar and A. Jiang, Error Correction for Hardware-Implemented Deep Neural Networks, to appear in *Proc. Non-Volatile Memories Workshop (NVMW)*, San Diego, CA, March 2019.

P. Upadhyaya, X. Yu, J. Mink, J. Cordero, P. Parmar and A. Jiang, Error Correction for Noisy Neural Networks, in *Proc. Information Theory and Applications (ITA) Workshop*, San Diego, CA, February 2019.

R. Prabhu, X. Yu, Z. Wang, D. Liu and A. Jiang, U-Finger: Multi-Scale Dilated Convolutional Network for Fingerprint Image Denoising and Inpainting, to be presented at *European Conference on Computer Vision (ECCV) Chalearn LAP Workshop*, Munich, Germany, September 2018. (**Winner of 2nd-place award in the ECCV 2018 Chalearn LAP Inpainting Competition, Track 3: Fingerprint Denoising and Inpainting.**)

A. Jiang, Elimination of Cyclic Stopping Sets for Enhanced Decoding of LDPC Codes, to appear in *Proc. IEEE International Symposium on Information Theory (ISIT)*, Vail, Colorado, June 2018.

A. Jiang, P. Upadhyaya, Y. Wang, K. R. Narayanan, H. Zhou, J. Sima and J. Bruck, Efficient Assistance to LDPC Code-based Erasure Recovery in NVM Storage, in *Proc. Non-Volatile Memories Workshop (NVMW)*, San Diego, CA, March 2018.

A. Jiang, Machine Learning and Algorithmic Techniques for Error Correction, in *Proc. Information Theory and Applications (ITA) Workshop*, San Diego, CA, February 2018.

A. Jiang, P. Upadhyaya, Y. Wang, K. R. Narayanan, H. Zhou, J. Sima and J. Bruck, Stopping Set Elimination for LDPC Codes, in *Proc. 55th Annual Allerton Conference on Communication, Control and Computing (Allerton)*, Monticello, IL, October 2017.

P. Upadhyaya and A. Jiang, On LDPC Decoding with Natural Redundancy, in *Proc. 55th Annual Allerton Conference on Communication, Control and Computing (Allerton)*, Monticello, IL, October 2017.

Y. Wang, K. R. Narayanan and A. Jiang, Exploiting Source Redundancy to Improve the Rate of Polar Codes, in *IEEE International Symposium on Information Theory (ISIT)*, pp. 864–868, Aachen, Germany, June 2017.

A. Jiang, P. Upadhyaya, E. F. Haratsch and J. Bruck, Error Correction by Natural Redundancy for Long Term Storage, in *Proc. Non-Volatile Memories Workshop (NVMW)*, La Jolla, CA, March 2017.

P. Upadhyaya and A. Jiang, LDPC Decoding with Natural Redundancy, in *Proc. Non-Volatile Memories Workshop (NVMW)*, La Jolla, CA, March 2017.

Y. Wang, A. Jiang and K. R. Narayanan, Modeling and Analysis of Joint Decoding of Language-based Sources with Polar Codes, in *Proc. Non-Volatile Memories Workshop (NVMW)*, La Jolla, CA, March 2017.

A. Jiang, P. Upadhyaya, E. F. Haratsch and J. Bruck, Correcting Errors by Natural Redundancy, in *Proc. Information Theory and Applications (ITA) Workshop*, San Diego, CA, February 2017.

Y. Wang, M. Qin, K. R. Narayanan, A. Jiang and Z. Bandic, Joint Source-Channel Decoding of Polar Codes for Language-Based Source, in *Proc. IEEE Global Communications Conference (Globecom)*, Washington D.C., December 2016.

A. Jiang, Y. Li and J. Bruck, Error Correction through Language Processing, in *Proc. IEEE Information Theory Workshop (ITW)*, Jerusalem, Israel, April to May 2015.

A. Jiang, Y. Li and J. Bruck, Enhanced Error Correction via Language Processing, in *Proc. Non-Volatile Memories Workshop (NVMW)*, La Jolla, CA, March 2015.

A. Jiang and J. Bruck, Is There A New Way to Correct Errors, in *Proc. Information Theory and Applications (ITA) Workshop*, San Diego, CA, February 2015.

Y. Li, Y. Wang, A. Jiang and J. Bruck, Content-assisted File Decoding for Nonvolatile Memories, in *Proc. 46th Asilomar Conference on Signals, Systems and Computers*, pp. 937–941, Pacific Grove, CA, November 2012.

On coding for non-volatile memories

Q. Li and A. Jiang, Coding for Secure Write-Efficient Memories, in *IEEE Transactions on Information Theory*, vol. 63, no. 2, pp. 1130–1145, 2017.

E. En Gad, Y. Li, J. Kliewer, M. Langberg, A. Jiang and J. Bruck, Asymmetric Error Correction and Flash-Memory Rewriting using Polar Codes, accepted by *IEEE Transactions on Information Theory.*

Y. Li, E. En Gad, A. Jiang and J. Bruck, Data Archiving in $1x$-nm NAND Flash Memories: Enabling Long-Term Storage using Rank Modulation and Scrubbing, in *Proc. IEEE International Reliability Physics Symposium (IRPS)*, Pasadena, CA, April 2016.

Q. Li, H. Chang, A. Jiang and E. F. Haratsch, Joint Decoding of Content-Replication Codes for Flash Memories, in *Proc. 53rd Annual Allerton Conference on Communication, Control and Computing (Allerton)*, pp. 712–719, Monticello, IL, October 2015.

Q. Li and A. Jiang, Polar Codes for Secure Write-Efficient Memories, in *Proc. 53rd Annual Allerton Conference on Communication, Control and Computing (Allerton)*, pp. 720–727, Monticello, IL, October 2015.

E. En Gad, E. Yaakobi, A. Jiang and J. Bruck, Rank-modulation Rewrite Coding for Flash Memories, in *IEEE Transactions on Information Theory*, vol. 61, no. 8, pp. 4209–4226, 2015.

Y. Li, Y. Ma, E. En Gad, M. Kim, A. Jiang and J. Bruck, Implementing Rank Modulation, in *Proc. Non-Volatile Memories Workshop (NVMW)*, La Jolla, CA, March 2015.

Q. Li, A. Jiang and E. F. Haratsch, Joint Decoding of Content-replication Codes for Flash Memories, in *Proc. Non-Volatile Memories Workshop (NVMW)*, La Jolla, CA, March 2015.

Q. Li and A. Jiang, Coding for Secure Write-efficient Memories, in *Proc. Non-Volatile Memories Workshop (NVMW)*, La Jolla, CA, March 2015.

Y. Li, H. Alhussien, E. F. Haratsch, and A. Jiang, A Study of Polar Codes for MLC NAND Flash Memories, in *Proc. International Conference on Computing, Networking and Communications (ICNC)*, Anaheim, CA, February 2015.

H. Zhou, M. Schwartz, A. Jiang and J. Bruck, Systematic Error-Correcting Codes for Rank Modulation, in *IEEE Transactions on Information Theory*, vol. 61, no. 1. pp. 17–32, 2015.

Q. Li and A. Jiang, Coding for Secure Write-Efficient Memories, in *Proc. 52nd Annual Allerton Conference on Communication, Control and Computing (Allerton)*, Monticello, IL, October 2014.

Y. Li, A. Jiang and J. Bruck, Error Correction and Partial Information Rewriting for Flash Memories, in *Proc. IEEE International Symposium on Information Theory (ISIT)*, pp. 2087–2091, July 2014.

E. En Gad, Y. Li, J. Kliewer, M. Langberg, A. Jiang and J. Bruck, Polar Coding for Noisy Write-Once Memories, in *Proc. IEEE International Symposium on Information Theory (ISIT)*, pp. 1638–1642, July 2014.

Q. Li, A. Jiang and E. F. Haratsch, Noise Modeling and Capacity Analysis for NAND Flash Memories, in *Proc. IEEE International Symposium on Information Theory (ISIT)*, pp. 2262–2266, July 2014.

Q. Li and A. Jiang, Coding for Noisy Write-Efficient Memories, in *Proc. IEEE International Symposium on Information Theory (ISIT)*, pp. 1633-1637, July 2014.

L. Dolecek, M. Blaum, J. Bruck, A. Jiang, K. Ramchandran, and B. Vasic, Guest Editorial: Communication Methodologies for the Next Generation Data Storage Systems, in *IEEE Journal on Selected Areas in Communications (JSAC)*, vol. 32, no. 5, pp. 825-830, May 2014.

Y. Li, H. Alhussien, E. F. Haratsch, and A. Jiang, The Performance of Polar Codes for Multi-level Flash Memories, in *Proc. Non-Volatile Memories Workshop (NVMW)*, La Jolla, CA, March 2014.

A. Jiang, Y. Li, E. En Gad, M. Langberg, and J. Bruck, Joint Rewriting and Error Correction in WOM, in *Proc. Non-Volatile Memories Workshop (NVMW)*, La Jolla, CA, March 2014.

Q. Li and A. Jiang, Polar Codes Are Optimal for Write-Efficient Memories, in *Proc. 51st Annual Allerton Conference on Communication, Control and Computing (Allerton)*, pp. 660–667, Monticello, IL, October 2013.

A. Jiang, Y. Li, E. En Gad, M. Langberg and J. Bruck, Joint Rewriting and Error Correction in Flash Memories, in *Flash Memory Summit*, August 2013.

E. Yaakobi, A. Jiang and J. Bruck, In-Memory Computing of Akers Logic Array, in *Proc. IEEE International Symposium on Information Theory (ISIT)*, pp. 2369–2373, July 2013.

A. Jiang, Y. Li, E. En Gad, M. Langberg and J. Bruck, Joint Rewriting and Error Correction in Write-Once Memories, in *Proc. IEEE International Symposium on Information Theory (ISIT)*, pp. 1067–1071, July 2013.

E. En Gad, E. Yaakobi, A. Jiang and J. Bruck, Rank-Modulation Rewriting Codes for Flash Memories, in *Proc. IEEE International Symposium on Information Theory (ISIT)*, pp. 704–708, July 2013.

M. Qin, A. Jiang and P. H. Siegel, Parallel Programming of Rank Modulation, in *Proc. IEEE International Symposium on Information Theory (ISIT)*, pp. 719–723, July 2013.

A. Jiang, M. Langberg, M. Schwartz, and J. Bruck, Trajectory Codes for Flash Memory, in *IEEE Transactions on Information Theory*, vol. 59, no. 7, pp. 4530–4541, July 2013.

H. Zhou, A. Jiang and J. Bruck, Nonuniform Codes for Correcting Asymmetric Errors in Data Storage, in *IEEE Transactions on Information Theory*, vol. 59, no. 5, pp. 2988–3002, May 2013.

M. Salajegheh, Y. Wang, A. Jiang, E. Learned-Miller and K. Fu, Half-Wits: Software Techniques for Low-Voltage Probabilistic Storage on Microcontrollers with NOR Flash Memory, in *ACM Transactions on Embedded Computing Systems*, Special Issue on Probabilistic Embedded Computing 12 (2s), May 2013.

A. Jiang, Y. Li and J. Bruck, Correcting Errors in MLCs with Bit-fixing Coding, in *Proc. Non-Volatile Memories Workshop (NVMW)*, San Diego, CA, March 2013.

A. Jiang, Y. Li, E. En Gad, M. Langberg and J. Bruck, Error Correcting Code for Flash Memories, in *Proc. Information Theory and Applications (ITA) Workshop*, San Diego, CA, February 2013.

A. Jiang, Y. Li and J. Bruck, Bit-fixing Codes for Multi-level Cells, in *Proc. IEEE Information Theory Workshop (ITW)*, Lausanne, Switzerland, September 2012.

H. Zhou, A. Jiang and J. Bruck, Systematic Error-correcting Codes for Rank Modulation, in *Proc. IEEE International Symposium on Information Theory (ISIT)*, pp. 2978–2982, Cambridge, MA, July 2012.

E. En Gad, A. Jiang and J. Bruck, Trade-offs between Instantaneous and Total Capacity in Multi-cell FLash Memories, in *Proc. IEEE International Symposium on Information Theory (ISIT)*, pp. 990–994, Cambridge, MA, July 2012.

A. Jiang, H. Li and J. Bruck, On the Capacity and Programming of Flash Memories, in *IEEE Transactions on Information Theory*, vol. 58, no. 3, pp. 1549–1564, March 2012.

M. Salajegheh, Y. Wang, A. Jiang, E. Learned-Miller and K. Fu, Half-Wits: Software Techniques for Low-voltage Probabilistic Storage on Microcontrollers with NOR Flash Memory, in *Proc. 3rd Annual Non-Volatile Memories Workshop (NVMW)*, UCSD, San Diego, CA, March 2012.

A. Jiang, H. Zhou and J. Bruck, Variable-level Cells for Nonvolatile Memories, in *Proc. IEEE International Symposium on Information Theory (ISIT)*, pp. 2489–2493, St. Petersburg, Russia, August 2011.

A. Jiang, H. Zhou, Z. Wang and J. Bruck, Patterned Cells for Phase Change Memories, in *Proc. IEEE International Symposium on Information Theory (ISIT)*, pp. 2294–2298, St. Petersburg, Russia, August 2011.

E. En Gad, A. Jiang and J. Bruck, Compressed Encoding for Rank Modulation, in *Proc. IEEE International Symposium on Information Theory (ISIT)*, pp. 849–853, St. Petersburg, Russia, August 2011.

H. Zhou, A. Jiang and J. Bruck, Nonuniform Codes for Correcting Asymmetric Errors, in *Proc. IEEE International Symposium on Information Theory (ISIT)*, pp. 1011–1015, St. Petersburg, Russia, August 2011.

H. Zhou, A. Jiang and J. Bruck, Error-correcting Schemes with Dynamic Thresholds in Nonvolatile Memories, in *Proc. IEEE International Symposium on Information Theory (ISIT)*, pp. 2109–2113, St. Petersburg, Russia, August 2011.

Y. Wu and A. Jiang, Position Modulation Code for Rewriting Write-Once Memories, in *IEEE Transactions on Information Theory*, vol. 57, no. 6, pp. 3692–3697, 2011.

M. Salajegheh, Y. Wang, K. Fu, A. Jiang and E. Learned-Miller, Exploiting Half-Wits: Smarter Storage for Low-Power Devices, in *Proc. 9th USENIX Conference on File and Storage Technologies (FAST)*, San Jose, CA, Feb. 2011.

A. Jiang, H. Zhou and J. Bruck, Maximizing the Storage Capacity of Nonvolatile Memories, in *Proc. Information Theory and Applications (ITA) Workshop*, UCSD, San Diego, CA, Feb. 2011.

A. Jiang and Y. Wang, Rank Modulation with Multiplicity, in *Proc. IEEE Workshop on Application of Communication Theory to Emerging Memory Technologies (ACTEMT)*, pp. 1928–1932, Miami, FL, Dec. 2010.

A. Jiang, V. Bohossian and J. Bruck, Rewriting Codes for Joint Information Storage in Flash Memories, in *IEEE Transactions on Information Theory*, vol. 56, no. 10, pp. 5300–5313, October 2010.

A. Jiang, R. Mateescu, E. Yaakobi, J. Bruck, P. Siegel, A. Vardy and J. Wolf, Storage Coding for Wear Leveling in Flash Memories, in *IEEE Transactions on Information Theory*, vol. 56, no. 10, pp. 5290–5299, October 2010.

A. Jiang, J. Bruck and H. Li, Constrained Codes for Phase-change Memories, in *Proc. IEEE Information Theory Workshop (ITW)*, Dublin, Ireland, August–September 2010.

E. Yaakobi, A. Jiang, P. Siegel, A. Vardy and J. Wolf, On the Parallel Programming of Flash Memory Cells, in *Proc. IEEE Information Theory Workshop (ITW)*, Dublin, Ireland, August–September 2010.

A. Jiang and J. Bruck, Data Representation for Flash Memories, book chapter in *Data Storage*, ISBN 978-953-307-063-6, In-Tech Publisher, 2010.

A. Jiang, M. Langberg, R. Mateescu and J. Bruck, Data Movement and Aggregation in Flash Memories, in *Proc. IEEE International Symposium on Information Theory (ISIT)*, pp. 1918-1922, Austin, TX, June 2010.

F. Zhang, H. Pfister and A. Jiang, LDPC Codes for Rank Modulation in Flash Memories, in *Proc. IEEE International Symposium on Information Theory (ISIT)*, pp. 859-863, Austin, TX, June 2010.

A. Jiang, M. Schwartz and J. Bruck, Correcting Charge-constrained Errors in the Rank Modulation Scheme, in *IEEE Transactions on Information Theory*, vol. 56, no. 5, pp. 2112-2120, May 2010.

A. Jiang, M. Langberg, R. Mateescu and J. Bruck, Data Movement in Flash Memories, in *Proc. 47th Annual Allerton Conference on Communication, Control and Computing (Allerton'09)*, pp. 1031-1038, Monticello, IL, September 2009.

A. Jiang and J. Bruck, Information Representation and Coding for Flash Memories, in *Proc. IEEE Pacific Rim Conference on Communications, Computers and Signal Processing (PACRIM)*, pp. 920-925, Victoria, B.C., Canada, August 2009.

A. Jiang and H. Li, Optimized Cell Programming for Flash Memories, in *Proc. IEEE Pacific Rim Conference on Communications, Computers and Signal Processing (PACRIM)*, pp. 914-919, Victoria, B.C., Canada, August 2009.

A. Jiang, R. Mateescu, E. Yaakobi, J. Bruck, P. Siegel, A. Vardy and J. Wolf, Storage Coding for Wear Leveling in Flash Memories, in *Proc. IEEE International Symposium on Information Theory (ISIT'09)*, pp. 1229-1233, June-July 2009.

A. Jiang, M. Langberg, M. Schwartz and J. Bruck, Universal Rewriting in Constrained Memories, in *Proc. IEEE International Symposium on Information Theory (ISIT'09)*, pp. 1219-1223, June-July 2009.

Z. Wang, A. Jiang and J. Bruck, On the Capacity of Bounded Rank Modulation for Flash Memories, in *Proc. IEEE International Symposium on Information Theory (ISIT'09)*, pp. 1234-1238, June-July 2009.

A. Jiang, R. Mateescu, M. Schwartz and J. Bruck, Rank Modulation for Flash Memories, in *IEEE Transactions on Information Theory*, vol. 55, no. 6, pp. 2659-2673, June 2009.

A. Jiang, H. Li and Y. Wang, Error Scrubbing Codes for Flash Memories, in *Proc. Canadian Workshop on Information Theory (CWIT)*, pp. 32-35, May 2009.

A. Jiang and J. Bruck, On The Capacity of Flash Memories, *Proc. International Symposium on Information Theory and Its Applications (ISITA'08)*, pp. 94-99, December 2008.

A. Jiang, R. Mateescu, M. Schwartz and J. Bruck, Rank Modulation for Flash Memories, *Proc. IEEE International Symposium on Information Theory (ISIT'08)*, pp. 1731-1735, July 2008.

A. Jiang, M. Schwartz and J. Bruck, Error-Correcting Codes for Rank Modulation, *Proc. IEEE International Symposium on Information Theory (ISIT'08)*, pp. 1736-1740, July 2008.

A. Jiang and J. Bruck, Joint Coding for Flash Memory Storage, *Proc. IEEE International Symposium on Information Theory (ISIT'08)*, pp. 1741-1745, July 2008.

A. Jiang, On The Generalization of Error-Correcting WOM Codes, *Proc. IEEE International Symposium on Information Theory (ISIT'07)*, pp. 1391-1395, June 2007.

A. Jiang, V. Bohossian and J. Bruck, Floating Codes for Joint Information Storage in Write Asymmetric Memories, *Proc. IEEE International Symposium on Information Theory (ISIT'07)*, pp. 1166-1170, June 2007.

V. Bohossian, A. Jiang and J. Bruck, Buffer Coding for Asymmetric Multi-Level Memory, *Proc. IEEE International Symposium on Information Theory (ISIT'07)*, pp. 1186-1190, June 2007.

On network data storage and data interleaving

A. Jiang, M. Cook and J. Bruck, Optimal Interleaving on Tori, *SIAM Journal on Discrete Mathematics*, vol. 20, no. 4, pp. 841-879, 2006.

A. Jiang, Network Coding for Joint Storage and Transmission with Minimum Cost, *Proc. IEEE International Symposium on Information Theory (ISIT'06)*, pp. 1359-1363, July 2006.

A. Jiang and J. Bruck, Network File Storage with Graceful Performance Degradation, *ACM Transactions on Storage*, vol. 1, no. 2, pp. 171-189, May 2005.

A. Jiang and J. Bruck, Multicluster Interleaving on Paths and Cycles, *IEEE Transactions on Information Theory*, vol. 51, no. 2, pp. 597-611, February 2005.

A. Jiang and J. Bruck, Coding over Graphs, book chapter in *Information, Coding and Mathematics*, pp. 355-364, Kluwer Academic Publishers, 2002.

A. Jiang, M. Cook and J. Bruck, Optimal t-Interleaving on Tori, *Proc. IEEE International Symposium on Information Theory (ISIT'04)*, pp. 22, June–July, 2004.

A. Jiang and J. Bruck, Multi-Cluster Interleaving on Linear Arrays and Rings, *Proc. International Symposium on Communication Theory and Applications*, pp. 112-117, July 2003.

A. Jiang and J. Bruck, Memory Allocation in Information Storage Networks, *Proc. IEEE International Symposium on Information Theory (ISIT'03)*, pp. 453, June–July, 2003.

A. Jiang and J. Bruck, Optimal Content Placement for En-route Web Caching, *Proc. the 2nd IEEE International Symposium on Network Computing and Applications*, pp. 9-16, April 2003.

A. Jiang and J. Bruck, Diversity Coloring for Information Storage in Networks, *Proc. IEEE International Symposium on Information Theory (ISIT'02)*, pp. 381, June–July, 2002.

On wireless ad hoc communication and sensor networks

F. Zhang, A. Jiang and J. Chen, On the Planarization of Wireless Sensor Networks, in *Algorithmica*, vol. 60, no. 3, pp. 593–608, March 2011.

J. Chen, A. Jiang, I. A. Kanj, G. Xia and F. Zhang, Separability and Topology Control of Quasi Unit Disk Graphs, in Springer *Wireless Networks (WINET) Journal*, vol. 17, no. 1, pp. 53–67, January 2011.

J. Bruck, J. Gao and A. Jiang, Localization and Routing in Sensor Networks by Local Angle Information, *ACM Transactions on Sensor Networks*, vol. 5, no. 1, article no. 7, February 2009.

F. Zhang, A. Jiang and J. Chen, Sorting Based Data Centric Storage, *Proc. the 7th IEEE International Symposium on Network Computing and Applications (NCA)*, pp. 283-286, July 2008.

H. Lu, A. Jiang and S. Liu, Locality Sensitive Information Brokerage in Distributed Sensor Networks, *Proc. the 28th IEEE International Conference on Distributed Computing Systems (ICDCS)*, pp. 522-529, June 2008.

F. Zhang, A. Jiang and J. Chen, Robust Planarization of Unlocalized Wireless Sensor Networks, *Proc. the 27th IEEE INFOCOM*, pp. 798-806, April 2008.

J. Bruck, J. Gao and A. Jiang, MAP: Medial Axis Based Geometric Routing in Sensor Networks, in Springer *WINET (Wireless Networks) Journal*, vol. 13, no. 6, pp. 835-853, December 2007.

H. Lu, S. Liu and A. Jiang, A Cross-layer Design for End-to-end On-demand Bandwidth Allocation in Infrastructure Wireless Mesh Networks, *Proc. International Conference on Wireless Algorithms, Systems and Applications (WASA)*, pp. 55-62, August 2007.

F. Zhang, H. Li, A. Jiang, J. Chen and P. Luo, Face Tracing Based Geographic Routing in Nonplanar Wireless Networks, *Proc. the 26th IEEE INFOCOM*, pp. 2243-2251, May 2007.

J. Chen, A. Jiang, I. A. Kanj, G. Xia and F. Zhang, Separability and Topology Control of Quasi Unit Disk Graphs, *Proc. the 26th IEEE INFOCOM*, pp. 2225-2233, May 2007.

J. Bruck, J. Gao and A. Jiang, MAP: Medial Axis Based Geometric Routing in Sensor Networks, *Proc. the 11th ACM International Conference on Mobile Computing and Networking (MobiCom'05)*, pp. 88-102, August–September, 2005.

J. Bruck, J. Gao and A. Jiang, Localization and Routing in Sensor Networks by Local Angle Information, *Proc. the 6th ACM International Symposium on Mobile Ad Hoc Networking and Computing (MobiHoc'05)*, pp. 181-192, May 2005.

A. Jiang and J. Bruck, Monotone Percolation and The Topology Control of Wireless Networks, *Proc. the 24th IEEE INFOCOM*, vol. 1, pp. 327-338, March 2005.

On data structures for membership query

J. Bruck, J. Gao and A. Jiang, Weighted Bloom Filter, *Proc. IEEE International Symposium on Information Theory (ISIT'06)*, pp. 2304-2308, July 2006.

On remote surveillance and network data communication

Z. Wang, A. Jiang and Z. Kang, A Remote-Surveillance System Using Digital Image Processing Technology, *Computers and Networks*, vol. 10, pp. 17-18, May 1999.

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