Ping Ji
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1381-018-8500 (China cell)

Research Interests

Advanced Computer Network Protocols and Applications, Wireless and Mobile networks, Network Security and Forensics, Big Data Analysis

Education

❖ **PhD, Computer Science**   University of Massachusetts at Amherst, Sept. 2003

Advanced Computer Networking Research Group

Advisors: Professors Jim Kurose and Don Towsley
Thesis title: Design, Analysis and Signaling for Advanced Distributed Networks Services

❖ **BS, Computer Science and Technology**   Tsinghua University, Beijing China, Jul. 1998

Professional Experiences

❖ **Deputy Executive Officer**: PhD Program in Computer Science, Graduate Center
City University of New York   Sept. 2013 – present

❖ **Professor:** Department of Mathematics and Computer Science, John Jay College
Ph.D. Program in Computer Science, Graduate Center
City University of New York   Jan. 2010 – present

❖ **Associate Professor:** Department of Math and Computer Science, John Jay College
Ph.D. Program in Computer Science, Graduate Center
City University of New York   Jan. 2008 – Dec. 2009

❖ **Assistant Professor:** Department of Mathematics and Computer Science, John Jay College
Ph.D. Program in Computer Science, Graduate Center
City University of New York   Sept. 2003 – Dec. 2007

Publications

Journal Publications:

o Xing Su, Hanghang Tong, **Ping Ji**, "Activity Recognition with Smartphone Sensors", Tsinghua Science and Technology, pp235-249, Vol. 19, No. 3, June 2014, **Best Paper** of 2015

o Rui Zhang, **Ping Ji**, Dinkar Mylaraswamy, Mani Srivastava and Sadaf Zahedi, Cooperative Sensor Anomaly Detection Using Global Information, Tsinghua Secience and Technology Journal, Vol. 18, No. 3, 2013

o Robert Shullich, Jie Chu, **Ping Ji**, Weifeng Chen, "A Survey of Research in Stepping Stone Detection", *International Journal of Electronic Commerce Studies, volume 2, number 2, 2011*

o **Ping Ji**, Zihui Ge, Jim Kurose and Don Towsley, "A Comparison of Hard-state and Soft-state Signaling Protocols", *IEEE/ACM Transaction on Networking (TON), volume 15, number 2, page 281-294, 2007*

o Zihui Ge, **Ping Ji**, Prashant Shenoy, "Design and Analysis of A Demand Adaptive and Locality Aware Streaming Media Server Cluster", *Multimedia Systems Journal, volume 13, number 3, page 235-249, 2007*

o Omer Demir, **Ping Ji**, Jinwoo Kim, "Session Based Packet Marking and Auditing for Network Forensics", *International Journal of Digital Evidence*, *Spring Issue 2007*

o **Ping Ji**, Benyuan Liu, Don Towsley, Zihui Ge and Jim Kurose, "Modeling Frame-level Errors in GSM Wireless Channels", *Journal of Special Issue of Performance Evaluation, volume 55, numbers 1-2, page 165-181, 2004*

Book Chapter:

o Kenneth Ezirim, **Ping Ji**, Shamik Sengupta, "Distributed Mechanisms for Multiple Channel Acquisition in a System of Uncoordinated Cognitive Radio", in the *Handbook of Research on Software-Defined and Cognitive Radio Technologies for Dynamic Spectrum Management, 2014*

Conference Papers:

o Yongjie Cai, Hanghang Tong, Wei Fan, **Ping Ji**, Qing He, "Facets, Fast Comprehensive Mining of Co-evolving High-order Time Series", in Proceedings of SIG*KDD 2015, Sydney August 2015*

o Yongjie Cai, Hanghang Tong, Wei Fan, **Ping Ji**, "Fast Mining of a Network of Coevolving Time Series", In Proceedings of *SDM 2015, Vancouver Canada, April 2015*

o Kenneth Ezirim, Ligon Liu, **Ping Ji**, Shamik Sengupta, "Distributed and Cheat-Proof Spectrum Contention Scheme for IEEE 802.22 WRAN Networks", in Proceedings of *IEEE WCNC, New Orleans, March 2015*

o Xing Su, Hanghang Tong, **Ping Ji**, "Accelerometer-Based Activity Recognition on Smartphone", *In Demo Session of the 23nd International Conference on Information and Knowledge Management (CIKM), Shanghai China, Nov. 2014*

o Yongjie Cai and **Ping Ji**, "A Measurement Study for Understanding Wireless Forensic Monitoring", in Proceedings of the *First International Conference on Digital Forensics and Investigation (ICDFI), Beijing China, 2012*

o Jie Chu, Zihui Ge, Richard Huber, **Ping Ji**, Jennifer Yates, and Yung-Chao Yu, "Analyze Logs of the Network Element in Real Time for Intrusion Detection", in Proceedings of *the 15th International Symposium On Research in Attacks, Intrusions and Defenses (RAID), Amsterdam Netherlands, Sept. 2012*

o Yongjie Cai and **Ping Ji**, "Security Monitoring for Wireless Network Forensics (SMoWF)", in Proceedings of *Systematic Approaches to Digital Forensic Engineering (SADFE), Vancouver Canada, Sept 2012*

o R. Shullich, Jie Chu, **Ping Ji**, and W. Chen, "A Survey of Research in Stepping-Stone Detection" *in proceedings of International Conference on Internet Studies, Nov. 2010, Taipei Taiwan*

o M. Ksionsk, **Ping Ji** and W. Chen, "Attacks on BitTorrent – An Experimental Study", *in proceedings of eForensics, Nov. 2010, Shanghai China*

o R. Zhang, **Ping Ji**, D. Mylaraswamy, M. Srivastava and S. Zahedi, "Cooperative Sensor Anomaly Detection Using Global Information", *Annual Conference of International Technology Alliance (ACITA), Sept. 2010, London UK*

o **Ping Ji**, D. Mylaraswamy, M. Srivastava and S. Zahedi, "PCA-Based Approaches for Sensor Error Detection at Global Layer", Short paper, *Annual Conference of International Technology Alliance (ACITA), Sept. 2009*

o D. Mylaraswamy, **Ping Ji**, M. Srivastava and S. Zahedi, "Formal Grammar for Recognizing Sensor Misbehavior Events", Short paper, *Annual Conference of International Technology Alliance (ACITA), Sept. 2009*

o J. Ho, **Ping Ji**, W. Chen, R. Hsieh, "Identifying Google Talk Packets", *IEEE Workshop on Cybercrime and Computer Forensics, June 2009*

o M. Perelman, **Ping Ji** and W. Chen, "Traffic and Security Analysis on Sony PlayStation 3", *IEEE Workshop on Cybercrime and Computer Forensics, June 2009*

o S. Zahedi, M. Szczodrak, **Ping Ji**, D. Mylaraswamy, M. Srivastava and R. Young, "Tiered Architecture for On-line Detection, Isolation, and Repair of Faults in Wireless Sensor Networks", *MILCOM, Nov. 2008*

o **Ping Ji**, Marcin Szczodrak, "A Multivariate Model for Data Cleansing in Sensor Networks", Short paper, *Annual Conference of International Technology Alliance (ACITA), Sept. 2008*

o Marcin Szczodrak, S. Zahedi, **Ping Ji**, D. Mylaraswamy, M. Srivastava and R. Young, "Simulation Framework for QoI Characterization of Sensor Networks in the Presents of Faults", Short paper, *Annual Conference of International Technology Alliance (ACITA), Sept. 2008*

o Sadaf Zahedi, M. Szczodrak, **Ping Ji**, D. Mylaraswamy, M. Srivastava and R. Young, "Two-Tier Framework for Sensor Fault Characterization in Sensor Networks", Short paper, *Annual Conference of International Technology Alliance (ACITA), Sept. 2008*

o Emmanuel Velasco, Weifeng Chen, **Ping Ji**, Raymond Hsieh, "Challenges of Location Tracking Techniques in Wireless Forensics", *The Fourth International Conference on Intelligent Information Hiding and Multimedia Signal Processing (IIHMSP), Harbin, China, Aug. 2008*

o Emmanuel Velasco, Weifeng Chen, **Ping Ji**, Raymond Hsieh, "Wireless Forensic: A New Radio Frequency Based Locating System", *IEEE International Conference on Intelligence and Security Informatics - Pacific Asia Workshop on Cybercrime and Computer Forensics (PACCF), Taipei, Taiwan, Jun. 2008*

o Xiaowen Zhang, Xiaowei Xu, Ke Tang, Andis Kwan, **Ping Ji**, Lin Leung, Xiangdong Li, Michael Anshel, "A Simple Secure Quantum Authorization Scheme", *SPIE Defense and Security Symposium, April 2007*

o Ke Tang, **Ping Ji**, Xiaowen Zhang, "Quantum Entanglement Assisted Key Distribution", *SPIE Defense and Security Symposium, April 2007*

o Omer Demir, **Ping Ji**, Jinwoo Kim, "Session-Based Logging (SBL) for IP-Traceback on Network Forensics", *International Conference on Security and Management, June 2006*

o **Ping Ji**, Zihui Ge, Jim Kurose and Don Towsley, "A Comparison of Hard-state and Soft-state Signaling Protocols", *ACM SIGCOMM 2003*.

o Zihui Ge, **Ping Ji**, Jim Kurose and Don Towsley, "Matchmaker: A Distributed Publish/Subscribe Architecture", *IEEE International Conference on Network Protocols (ICNP), Nov. 2003*.

o **Ping Ji,** Benyuan Liu, Don Towsley and Jim Kurose, "Modeling Frame-level Errors in GSM Wireless Channels", in *Proceedings of IEEE Globecom, Internet Performance Symposium (IPS)*, Nov 2002.

o **Ping Ji**, Zihui Ge, Jim Kurose and Don Towsley, "Signaling Protocols for Distributed Multicast-Based Publish/Subscribe Applications", *presented in OPENSIG,* October 2002, Lexington Kentucky, USA. *Umass CMPSCI Technical Report 02-36.*

o Zihui Ge, **Ping Ji**, Jim Kurose and Don Towsley, "Min-Cost Matchmaker Problem in Distributed Publish/Subscribe Infrastructures", *presented in OPENSIG,* October 2002, Lexington Kentucky, USA. *Umass CMPSCI Technical Report 02-19*

o Zihui Ge, **Ping Ji** and Prashant Shenoy, "A Demand Adaptive and Locality Aware (DALA) Streaming Media Server Cluster Architecture", *Proceedings of NOSSDAV 2002*, May 2002, Miami, Florida, USA.

o S.Zabele, M.Dorsch, Z.Ge, **P.Ji,** M.Keaton, J.Kurose, J.Shapiro and D.Towsley, "SANDS: Specialized Active Networking for Distributed Simulation", *IEEE DARPA Active Networks Conference and Exposition*, May 2002, San Francisco, California, USA.

o **Ping Ji,** Jim Kurose and Don Towsley, "Activating and Deactivating Repair Servers in Active Multicast Trees", *Proceedings of Tyrrhenian International Workshop on Digital Communications 2001 (IWDC '01),* Sep., 2001

o **Ping Ji,** Jim Kurose and Bev Woolf, "Student Behavioral Model Based Prefetching in an Online Tutoring System", *Umass CMPSCI Technical Report 01-27.*

Awards and Grants

1. **NSF-ICorps Teams** grant on Infrastructure-free Security Monitoring and Tracking for Wireless Target (iSMoWT), Jul. 2014 – Dec. 2015

2. **NSF-CISE** grant on Collaborative Research: Novel Forensic Analysis for Crimes Involving Mobile Systems, Sept. 2009 – August 2014

3. **NSF-SFS** grant on Collaborative Research: A Northeast Partnership for Developing the Information Assurance Workforce, Sept. 2008 – August 2010

4. Department of the **US Army/United Kingdom Ministry of Defense** Grant on International Technology Alliance (ITA), 2006 – 2011

5. Sloan Foundation Grant, Mathematics Group Leader for Online Courses, Sept. 2006 – May 2007

6. John Jay College Research Assistant Program Award, 2006 – 2007

7. PSC-CUNY Research Award, Jul. 2004 – Jun. 2009 (each year), Jul. 2010 – Jun. 2011, Jul. 2013 – Jun. 2014

Graduate Students:
Ph.D. Thesis Advisor for:
Yongjie Cai (CUNY Graduate Center), graduating in summer 2015
Kenneth Ezirim (CUNY Graduate Center), graduating in summer 2015
Jie Chu (CUNY Graduate Center)

Previous Ph.D. students:
Marcin Szczodrak

Ph.D. Thesis Committee Member for:

Rui Zhang, Simon Shamoun, Omer Demir, Zeki Bilgin, Eman Abdu, Jiang Wu, Constantinos Djouvas, Qinghai Gao, Ke Tang, Xing Su

Teaching Experience

❖ **Graduate Courses:**

- o Network Security and Forensics **Invited International Scholar Course Series**

  Dept. of Electronic Engineering, Tsinghua University, China, Jun 8 – Jun 26/2009 and summer 2013

- o CSc72010: Computer Networks Computer Science PhD Program, CUNY GC, Spring/12, Spring/15

- o CSc82100: Network Forensics Computer Science PhD Program, CUNY GC, Spring/09, Fall/15

- o CSc82005: Advanced Computer Networks CS PhD Program, CUNY GC, Fall/07, Fall/12

- o FCM 745: Network Forensics Master's Program in Forensics Computing

  CUNY John Jay College, Fall/06, Fall/07, Fall/08, Fall/11, Fall/12

- o FCM 742: Network Security Master's Program in Forensics Computing, CUNY John Jay College, Fall/04, Spring/15

❖ **Undergraduate Courses:**

- o Mat 379: Computer Networks Spring 2006, Spring/12, Fall/15
- o Mat 279: Date Communication and the Internet Fall/03, Spring/04, Spring/05, Fall/08
- o Mat 272: Object Oriented Programming Fall 2005, Spring 2006
- o Mat 204: Discrete Mathematics Fall 2005
- o Mat 105: College Algebra Fall 2004
- o Mat 100: Introduction on Basic Mathematic Skills Spring 2006

Other Professional Activities

Conference Chair:

- First Annual ACM Northeast Digital Forensics Exchange (NeFX), July 20 to 21, 2009 John Jay College of Criminal Justice, CUNY, New York, NY

Journal Editor

- EURASIP Journal on Wireless Communications and Networking Special Issue on Theoretical Foundations of Wireless Networks, 2009 – 2010

Technical Program Committee Member

- IFIP/TC6 NETWORKING 2010, 2013
- The 12th Annual DFRWS Digital Forensics Research Conference, 2012
- The First International Conference on Digital Forensics and Investigation (ICDFI), Beijing China, 2012

- Systematic Approaches to Digital Forensic Engineering (SADFE), Vancouver Canada, Sept 2012
- First Annual ACM Northeast Digital Forensics Exchange (NeFX), 2010
- IEEE Globecom 2010
- ISWCS – International Symposium on Wireless Communication Systems, 2009
- IPCCC – International Performance Computing and Communications Conference, 2007
- ICC – Computer and Communications Network Security Symposium, 2007
- IWCMC – Computer and Network Security Symposium, 2007

Referee Service for Peer-reviewed Journal and Conference
- IEEE INFOCOM (Institute of Electrical and Electronics Engineers Conference on Computer Communications) 2004, 2005, 2009
- Elsevier, The International Journal of Computer Networks (COMNET)
- IEEE Globecom 2007

University Committee Services:
   CUNY – Graduate Center
- Executive Committee of Computer Science PhD Program, 2010 - present
   CUNY – John Jay College
- Institutional Review Board (IRB) of John Jay College, 2004 – 2011
- Department Representative in College Council, 2004 – 2006, 2008 – 2009
- Department Representative in Faculty Senate, 2004 – 2006, 2008 – 2009
- Executive Committee of College Council, 2005 – 2006
- College Committee on Undergraduate Admissions, 2004 – 2005
- Personnel and Budget Committee, Department of Mathematics and Computer Science, John Jay College, 2006 – 2008
- Department Committee on Hear Appeals of Academic Evaluation, 2004 – 2005, 2006 – 2007

Professional Membership:
- Institute of Electrical and Electronics Engineers (IEEE)
- Association for Computer Machinery (ACM)