Xin Jin

CONTACT INFORMATION

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RESEARCH INTERESTS

Networked Systems, Cloud Computing, Networking.

During my graduate work, I have designed and built scalable, efficient and secure systems to manage physical and virtual networks and optimize data delivery for large-scale data-intensive computing and mobile applications. My recent interests also include networked systems for the Internet of Things and Software-Defined Security.

EDUCATION

Princeton University 09/2011-06/2016(expected)
Ph.D. Candidate, Computer Science
M.A., Computer Science
Advisor: Jennifer Rexford
Thesis: *Dynamic Management of Software-Defined Networks*

Peking University 09/2007-07/2011
B.S., Computer Science, GPA: 3.8/4.0, Rank: 1/130
B.A., Economics, GPA: 3.8/4.0

PROFESSIONAL EXPERIENCE

Open Networking Lab (ON.LAB) 07/2015
Academic Visitor, Host: Brian O'Connor, Guru Parulkar
Developed a module for network service composition for ONOS, a popular open-source network operating system for software-defined networks, as part of the technology transfer of the CoVisor project at Princeton.

Rockley Photonics 02/2015-06/2015
Research Intern, Host: Nathan Farrington
Designed a new architecture for high-performance data center switches with a novel combination of CMOS and optical technologies. Designed a packet scheduling algorithm tailored for the architecture that achieves high throughput and avoids starvation.

Microsoft Research Redmond 06/2013-02/2014
Research Intern, Host: Srikanth Kandula, Ratul Mahajan, Jitu Padhye, Ming Zhang
Designed Dionysus, a system that can perform fast, consistent network updates for software-defined networks. Implemented a prototype and evaluated the system with testbed experiments and large-scale simulations.

WeaverMobile 07/2011-08/2011
Software Development Intern, Host: Mike Ji, Raymond Wei, Xiaosong Yang
Developed WeConnect, an iOS application for a location-based social network service. Built and maintained iOS software developing infrastructure.

Microsoft Research Asia 07/2010-08/2010
Research Intern, Host: Chuanxiong Guo
Designed algorithms to provide bandwidth guarantees to multiple tenants in virtual data centers. Evaluated the efficiency and effectiveness of the algorithms with simulations.

Publications

Xin Jin, Yiran Li, Da Wei, Siming Li, Jie Gao, Lei Xu, Guangzhi Li, Wei Xu, Jennifer Rexford, "Optimizing bulk transfers with software-defined optical WAN", in submission, September 2015.

Xin Jin, Nathan Farrington, Jennifer Rexford, "Your data center switch is trying too hard", in submission, September 2015.

Xin Jin, Jennifer Gossels, Jennifer Rexford, David Walker, "CoVisor: A compositional hypervisor for software-defined networks", in *USENIX Symposium on Networked Systems Design and Implementation (NSDI)*, May 2015.

Xuan Kelvin Zou, Jeffrey Erman, Vijay Gopalakrishnan, Emir Halepovic, Rittwik Jana, **Xin Jin**, Jennifer Rexford, and Rakesh K. Sinha, "Can accurate predictions improve video streaming in cellular networks?", in *ACM International Workshop on Mobile Computing Systems and Applications (HotMobile)*, February 2015.

Xin Jin, Hongqiang Harry Liu, Rohan Gandhi, Srikanth Kandula, Ratul Mahajan, Ming Zhang, Jennifer Rexford, Roger Wattenhofer, "Dynamic scheduling of network updates", in *ACM SIGCOMM*, August 2014.

Xin Jin, Jennifer Rexford, David Walker, "Incremental update for a compositional SDN hypervisor", in *ACM SIGCOMM Workshop on Hot Topics in Software Defined Networking (HotSDN)*, August 2014.

Xin Jin, Li Erran Li, Laurent Vanbever, Jennifer Rexford, "SoftCell: Scalable and flexible cellular core network architecture", in *ACM International Conference on emerging Networking EXperiments and Technologies (CoNEXT)*, December 2013.

Ziyu Shao, **Xin Jin**, Wenjie Jiang, Minghua Chen, Mung Chiang, "Intra-data-center traffic engineering with ensemble routing", in *IEEE International Conference on Computer Communications (INFOCOM)*, April 2013.

Xin Jin, Li Erran Li, Laurent Vanbever, Jennifer Rexford, "CellSDN: Software-Defined Cellular Core Networks", in *Open Networking Summit (Research Track)*, April 2013.

Xin Jin, Eric Keller, Jennifer Rexford, "Virtual switching without a hypervisor for a more secure cloud", in *USENIX Workshop on Hot Topics in Management of Internet, Cloud, and Enterprise Networks and Services (Hot-ICE)*, April 2012.

Weijie Su, **Xin Jin**, "Hidden markov model with parameter-optimized k-means clustering for handwriting recognition", in *International Conference on Internet Computing and Information Services (ICICIS)*, September 2011.

ChaoYi Bian, **Xin Jin**, Chao Liu, XiaoMing Li, Wei Yan, "Relative link quality assessment and hybrid routing scheme for wireless mesh networks", in *IEEE International Conference on Communications (ICC)*, June 2011.

Xin Jin, Weijie Su, Wei Yan, "Quantitative analysis of the VANET connectivity: Theory and application", in *IEEE Vehicular Technology Conference (VTC)*, May 2011.

Xin Jin, Weijie Su, Wei Yan, "A study of the VANET connectivity by percolation theory", in *IEEE Intelligent Vehicular Communications System Workshop (IVCS)*, January 2011.

Teaching Experience

Princeton University

COS 561 Advanced Computer Networks, Teaching Assistant	Fall 2014
COS 333 Advanced Programming Techniques, Teaching Assistant	Spring 2014
COS 333 Advanced Programming Techniques, Teaching Assistant	Spring 2013

Peking University
Introduction to Computer Networks, Teaching Assistant — Fall 2011

Awards & Hornors

Siebel Scholar, the Siebel Foundation	Class of 2016
Charlotte Elizabeth Procter Fellowship, Princeton University	2015
Graduate Fellowship, Princeton University	2011
Beijing Outstanding Graduates, Peking University	2011
Peking University Outstanding Graduates, Peking University	2011
Excellent Bachelor Thesis, School of EECS, Peking University	2011
National Scholarship, Ministry of Education, China	2010
China Economic Research Scholarship, Peking University	2010
National Scholarship, Ministry of Education, China	2009
Peking University Merit Student, Peking University	2009
Suzhou Industrial Park Scholarship, Peking University	2008
Peking University Merit Student, Peking University	2008

Presentations

Optimizing bulk transfers with software-defined optical WAN
AT&T Labs, Middletown, NJ, October 2015

CoVisor: A compositional hypervisor for software-defined networks
Intel, Hillsboro, OR, May 2015
Conference talk at NSDI, Oakland, CA, May 2015
ON.LAB, Menlo Park, CA, April 2015

Dynamic scheduling of network updates
Conference talk at SIGCOMM, Chicago, IL, August 2014

Incremental update for a compositional SDN hypervisor
Conference talk at HotSDN, Chicago, IL, August 2014

SoftCell: Scalable and flexible cellular core network architecture
Conference talk at CoNEXT, Santa Barbara, CA, December 2013
Conference talk at Open Networking Summit, Santa Clara, CA, April 2013

Virtual switching without a hypervisor for a more secure cloud
Conference talk at HotICE, San Jose, April 2012

Service

Reviewer: IEEE INFOCOM 2016, ACM MobiHoc 2015, IEEE Transactions on Mobile Computing 2014-2015, IEEE/ACM Transactions on Networking 2014-2015, IEEE Transactions on Vehicular Technology 2014, IEEE ICNP 2013, IEEE Communication Magazine 2013, IEEE VTC 2013

Technical Program Committee: ACM International Workshop on Hot Topics in Planet-scale mObile computing and online Social neTworking (HotPost) 2015

References

Jennifer Rexford
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