

XIN JIN

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EDUCATION

Princeton University

09/2011-Present

Ph.D., Computer Science, GPA: 3.93/4.0

Advisor: Jennifer Rexford

Research Interests: Software-defined networks, data center networks, distributed systems

Peking University

09/2007-07/2011

B.S., Computer Science, GPA: 3.79/4.0, Rank: 1/130

B.A., Economics (Double Major), GPA: 3.77/4.0

PUBLICATIONS

1. **Xin Jin**, Li Erran Li, Laurent Vanbever, Jennifer Rexford, “SoftCell: Scalable and Flexible Cellular Core Network Architecture”, in *ACM SIGCOMM CoNEXT Conference*, December 2013.
2. 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.
3. **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.
4. 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.
5. **Xin Jin**, Weijie Su, Wei Yan, “Quantitative Analysis of the VANET Connectivity: Theory and Application”, in *IEEE Vehicular Technology Conference (VTC)*, May 2011.
6. **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.

EXPERIENCE

Microsoft Research Redmond

06/2013-Present

Research Intern, Mentors: Srikanth Kandula, Ratul Mahajan, Jitu Padhye, Ming Zhang

- *Cutting-edge research in software-defined networking (Ongoing project):*

We are working on new technologies to build the next-generation data center networks that power online services for the whole planet.

Princeton University

09/2011-Present

Research Assistant, Advisor: Jennifer Rexford

- *Scalable Cellular Core Network Architecture (CoNEXT'13):*

Designed *SoftCell*, a scalable architecture for supporting fine-grained policies for mobile devices in cellular core networks. Implemented a SoftCell controller on top of Floodlight OpenFlow controller. Evaluated SoftCell using traces (~1TB) from a large LTE deployment, micro benchmarks on the prototype, and large-scale simulations.

- *Ensemble Routing for Data Center Networks (INFOCOM'13)*:
Ensemble routing improves routing scalability in data centers by grouping flows by hash value and quality-of-service class (*flow ensembles*). Implemented an algorithm (based on Markov approximation framework) on Matlab that effectively maps flow ensembles to VLANs. Evaluated the algorithm performance with regard to traffic distribution, flow ensemble size, and traffic estimation accuracy.
- *Virtual Switching to Improve Cloud Security (Hot-ICE'12)*:
Designed a system that supports virtualized networking using software switches without a hypervisor, so as to eliminate potential attacks by compromising the hypervisor. Developed Linux kernel modules (network drivers) to enable VM-to-VM communication through software switches via a shared memory region. Implemented and evaluated a prototype using Xen and Open vSwitch.

WeaverMobile

07/2011-08/2011

Software Development Intern, Mentors: Mike Ji, Raymond Wei, Xiaosong Yang

- *Smartphone Application Development*:
Developed *WeConnect*, an iOS application for a location-based social network service. Built and maintained iOS software developing infrastructure (Bugzilla, SVN, Xcode, internal mail service, Mac Pro server, etc).

Microsoft Research Asia

07/2010-08/2010

Research Intern, Mentor: Chuanxiong Guo

- *Bandwidth Guarantee for Virtual Data Centers in the Hose Model*:
Designed algorithms to allocate network resources (link capacity) to multiple tenants. Proved NP-hardness (or not) of the problem in different settings. Evaluated both the efficiency and effectiveness of the algorithms with simulations.

Peking University

09/2008-07/2011

Research Assistant, Advisor: Wei Yan

- *VANET Connectivity Analysis and Mobility Modeling (VTC'11, IVCS'11)*:
Analyzed connectivity of Vehicular Ad hoc NETWORKS (VANETs) using bond percolation model and Bollobás model. Implemented a simulator (in C) and conducted simulations to validate the analysis. Proposed a role-based mobility model for VANETs and integrated it with VanetMobiSim.

AWARDS AND HONORS

- Princeton University Graduate Fellowship, 2011
- Beijing Outstanding Graduates (top 5% of Peking University students), 2011
- Peking University Outstanding Graduates (top 10% of Peking University students), 2011
- National Scholarship (the highest scholarship in China), 2009 & 2010
- China Economic Research Scholarship (top 1% of economics (Double Major) students), 2010
- Peking University Merit Student (top 5% of Peking University students), 2008 & 2009
- Suzhougongyeyuanqu Scholarship (top 5% of Peking University students), 2008

TECHNICAL SKILLS

- Programming Languages: C/C++, Java, Python, Matlab, OCaml, PHP, SQL, etc.
- Software-Defined Network Tools: Floodlight, Open vSwitch, Mininet, Cbench