CHUAN JIANG

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EDUCATION

Purdue University *Aug 2016 - Present*
Ph.D. in Computer Engineering, ECE
Research Assistant in Internet System Lab
Advisor: Professor Sanjay Rao

Shanghai Jiaotong University *Aug 2012 - June 2016*
Bachelor of Science in Engineering
ACM Honored Class
Overall GPA: 86.5/100

RESEARCH INTERESTS

- Network verification.
- Network designs with guaranteed performance.
- Network incidents diagnosis.

PUBLICATIONS

- **Chuan Jiang**, Sanjay Rao, and Mohit Tawarmalani. "PCF: Provably Resilient Flexible Routing", ACM SIGCOMM 2020.
- Yiyang Chang, **Chuan Jiang**, Ashish Chandra, Sanjay Rao, Mohit Tawarmalani. "Lancet: Better network resilience by designing for pruned failure sets", ACM SIGMETRICS 2020.
- Yanjun Wang, **Chuan Jiang**, Xiaokang Qiu, Sanjay G. Rao. "Learning Network Design Objectives Using A Program Synthesis Approach", HotNets 2019.
- Ashiwan Sivakumar, **Chuan Jiang**, Yun Seong Nam, Shankaranarayanan P N, Vijay Gopalakrishnan, Sanjay Rao, Subhabrata Sen, Mithuna Thottethodi, Vijaykumar T.N. "NutShell: Scalable Whittled Proxy Execution for Low-Latency Web over Cellular Networks", ACM MOBICOM 2017.

RESEARCH EXPERIENCE

Designing Networks for SLOs Feb 2020 - Present
Purdue University *Advisor: Prof. Sanjay Rao and Prof. Mohit Tawarmalani*

- Developed a system for designing routing to ensure network performance SLOs for services.
- Adopted a decomposition technique to scale the system for larger networks.

Designing Networks with Worst-case guarantees Dec 2018 - Aug 2020
Purdue University *Advisor: Prof. Sanjay Rao and Prof. Mohit Tawarmalani*

- Proposed a hierarchy of novel routing schemes with formal optimization models to provide worst-case performance guarantee under network failures.
- Provided theoretical proofs on our schemes' benefits over existing state-of-the-art schemes, and feasibility of implementation.

Proxy-Assisted Browsing in Cellular Networks Dec 2016 - Oct 2017
Purdue University *Advisor: Prof. Sanjay Rao*

- Evaluated proxy-based redundant execution for low latency mobile pages.

- Reduced work done at proxies.
- Experimented on pages and analyzed the throughput and latency results.

INDUSTRY EXPERIENCE

Software Development Engineer Intern June 2019 - Aug 2019
Facebook *Mentor: Dr. Ying Zhang*

- Built a set of tools to statistically analyze the system for processing network incidents.
- Optimized the diagnosis of network incidents processing system and used machine learning techniques to enhance the performance.

Software Development Engineer Intern June 2018 - Aug 2018
Facebook *Mentor: Dr. Dexter Cao*

- Designed and implemented a new dispatching pipeline for network monitoring tasks.
- Shipped the new dispatching pipeline in production to improve the performance of the network monitoring system.

Research Intern Aug 2015 - Feb 2016
Microsoft Research Asia *Advisor: Dr. Qiang Huo*

- Proposed and implemented an algorithm to perform stroke analysis for texts in images
- Used stroke analysis to identify text baselines in images in order to improve the precision of text recognition

SKILLS

Computer Languages	C/C++, Python, Java
Database	MySQL
Tools	Matlab, OpenCV, OpenGL, Scikit-learn, Gurobi
SDN	Mininet, Open vSwitch

AWARDS AND RECOGNITIONS

- NSDI 2018 Travel Grant 2018
- Intern Award in Microsoft Research Asia 2015
- Undergraduate Excellence Scholarship of Shanghai Jiaotong University 2014