SHU WANG

shuwanguc@gmail.com

EDUCATION

The University of Chicago   *Sep 2015 - Dec 2021*
Ph.D. & M.S. in Computer Science   GPA: 3.9

University of Wisconsin-Madison   *Sep 2013 - May 2015*
M.S. in Computer Engineering   GPA: 3.6

Harbin Institute of Technology   *Aug 2009 - Jul 2013*
B.E. in Electrical Engineering   GPA: 3.8

EMPLOYMENT

LinkedIn   *Feb 2022 - Now*
Software Engineer @ Spark Team

- Identified dependency time and space overhead of many Spark Jobs in LinkedIn
- Implemented user level cache to avoid duplicated dependency uploading
- Lead and collaborated with ProML team to reduce up to 50% jobs runtime used by major ML Engineers
- Prototyped Spark performance analysis tool to profile all spark jobs in Azkaban flow

RESEARCH & INTERNSHIP EXPERIENCES

Automatic Configuration for Software System   *Apr 2016 - Aug 2021*
The University of Chicago   *Research Assistant*

- Designed an auto-configuration framework for distributed systems (Mapreduce, HDFS, Hbase, Cassandra).
- Developed a self-adaptive algorithm for auto-configuration.
- Implemented a static analysis tool for inferring configurations' properties.
- Improved both performance and reliability (avoiding OOME crashes) of the system.

Experiment Reproducibility in Chameleon Cloud   *Jun 2018 - Sep 2018*
Argonne National Laboratory(ANL)   *Research Intern*

- Analyzed RabbitMQ events used in OpenStack-based Cloud Computing Infrastructure.
- Composed an actionable OpenStack command list script for reproducible experiments.

Hardware Transactional Memory Application   *Jan 2016 - Aug 2016*
The University of Chicago   *Research Assistant*

- Fixed concurrency bugs using Intel Hardware Transactions Memory for MySQL, Apache, and Mozilla.
- Designed an accurate and efficient software instrumentation algorithm.
- Improved the system reliability with less overhead.

Fine-grained Wireless Sensing Application   *Aug 2014 - Mar 2015*
University of Wisconsin-Madison   *Research Assistant*

- Implemented an eavesdropping system based on the vibration of wireless signal strength.

Stochastic Analysis of Full-duplex Wireless Network   *Jan 2014 - Jul 2014*
University of Wisconsin-Madison   *Research Assistant*

- Analyzed full-duplex networks capacity using stochastic geometry under different MAC protocols.

PUBLICATIONS

AgileCtrl: A self-adpative Framework for Configuration Tuning
Shu Wang, Henry Hoffmann, Shan Lu
ACM Foundations of Software Engineering (**FSE**), 2022
Acceptance ratio: 22%, 99 out of 396 submissions

Statically Inferring Performance Properties of Software Configurations

Chi Li, **Shu Wang**, Henry Hoffmann, Shan Lu

ACM European Conference on Computer Systems (**EuroSys**), 2020

Acceptance ratio: 18%, 43 out of 234 submissions

Applying Transactional Memory for Concurrency-Bug Failure Recovery in Production Runs

Yuxi Chen, **Shu Wang**, Shan Lu, Karthikeyan Sankaralingam

IEEE *Transactions on Parallel and Distributed Systems* (**TPDS**), 2018

Impact Factor: 3.402

Applying Hardware Transactional Memory for Concurrency-Bug Failure Recovery in Production Runs

Yuxi Chen, **Shu Wang**, Shan Lu, Karthikeyan Sankaralingam

USENIX *Annual Technical Conference* (**ATC**), 2018

Acceptance ratio: 20%, 76 out of 378 submissions

Understanding and Auto-Adjusting Performance-Related Configurations

Shu Wang, Chi Li, William Sentosa, Henry Hoffmann, Shan Lu

ACM *International Conference on Architectural Support for Programming Languages and Operating Systems* (**ASPLOS**), 2018

Acceptance ratio: 18%, 56 out of 307 submissions

Repeatability as Side-Effect in Testbed (Poster)

Shu Wang, Zhuo Zhen, Jason Anderson, Kate Keahey

ACM/IEEE *Supercomputing Conference* (**Supercomputing**), 2018

Fundamental Analysis of Full-duplex Gains in Wireless Networks

Shu Wang, Vignesh Venkateswaran, Xinyu Zhang

IEEE/ACM *Transactions on Networking* (**ToN**), 2017

Impact Factor: 3.597

Acoustic Eavesdropping through Wireless Vibrometry

Teng Wei, **Shu Wang**, Anfu Zhou, Xinyu Zhang

ACM *International Conference on Mobile Computing and Networking* (**MobiCom**), 2015

Acceptance ratio: 18%, 38 out of 207 submissions, one of **top 9** pre-accepted papers

Exploring Full-Duplex Gains in Multi-Cell Wireless Networks:A Spatial Stochastic Framework

Shu Wang, Vignesh Venkateswaran, Xinyu Zhang

IEEE *Conference on Computer Communications* (**INFOCOM**), 2015

Acceptance ratio: 19%, 316 out of 1640 submissions

PATENTS

Wireless Vibometer with Antenna Array

Xinyu Zhang, Teng Wei, **Shu Wang**, Anfu Zhou

AWARDS

Student Travel Grant, ASPLOS, Midwest PL Summit	*2018*
People's Scholarship for Academic Excellence, Three Times	*Aug 2009 - Jul 2013*
Outstanding Students, Harbin Institute of Technology	*2012*
Mathematical Contest in Modeling, Honorable Mention	*2012*
The 3rd China Undergraduate Mathematical Contest, 2nd Prize	*2011*
***Endress+Hauser* Enterprise Scholarship**	*2011*
The 2nd China Undergraduate Mathematical Contest, 2nd Prize	*2010*

SKILLS

- **Programming:** C, Java, Python, Matlab.
- **Software:** Spark, Hadoop, HBase, OpenStack.
- **Hardware:** Intel HTM, Embedded System.
- **Platform:** WARP, Intel MCS-51, TI CC2530.
- **IDE:** Emacs, Eclipse, VS Code, IAR, keil, Latex.
- **Related Courses:** OS, Advanced OS, Algorithms, Database, Wireless and Mobile Networks, Computer Architecture, Advanced Computer Networks, Machine Learning, Deep Learning