Yunqi Zhang

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EDUCATION

Doctor of Philosophy, in Computer Science and Engineering
University of Michigan, Ann Arbor — 2013 - 2018

- Advisors: Prof. Lingjia Tang, Prof. Jason Mars
- Dissertation: Architecting Data Centers for High Efficiency and Low Latency

Master of Science, in Computer Science and Engineering
University of Michigan, Ann Arbor — 2013 - 2015

Master of Science, in Computer Science and Engineering — Completed 44 credits
University of California, San Diego — 2012 - 2013

Bachelor of Science, in Software Engineering — Graduated with honors
Beijing Institute of Technology — 2008 - 2012

PUBLICATIONS

Yiping Kang, Yunqi Zhang, Jonathan K. Kummerfeld, Parker Hill, Johann Hauswald, Michael A. Laurenzano, Lingjia Tang, Jason Mars. Data Collection for a Production Dialogue System: A Clinc Perspective. *Proceedings of the 16th Annual Conference of the North American Chapter of the Association for Computational Linguistics: Human Language Technologies.* **(NAACL 2018)**

Shih-Chieh Lin, Yunqi Zhang, Chang-Hong Hsu, Matt Skach, Md E. Haque, Lingjia Tang, Jason Mars. The Architectural Implications of Autonomous Driving: Constraints and Acceleration. *Proceedings of the 23th International Conference on Architectural Support for Programming Languages and Operating Systems.* **(ASPLOS 2018)**

- Acceptance Rate: 18%

Chang-Hong Hsu, Yunqi Zhang, Michael A. Laurenzano, David Meisner, Thomas Wenisch, Ronald G. Dreslinski, Jason Mars, Lingjia Tang. Reining in Long Tails in Warehouse-Scale Computers with Quick Voltage Boosting Using Adrenaline. *ACM Transactions on Computer Systems, Volume 35 Issue 1, March 2017.* **(TOCS 2017)**

Yunqi Zhang, George Prekas, Giovanni M. Fumarola, Marcus Fontoura, Inigo Goiri, Ricardo Bianchini. History-Based Harvesting of Spare Cycles and Storage in Large-Scale Datacenters. *Proceedings of the 12th USENIX Symposium on Operating Systems Design and Implementation.* **(OSDI 2016)**

- Acceptance Rate: 18%
- Deployed in Production at Microsoft

Yunqi Zhang, David Meisner, Jason Mars, Lingjia Tang. Treadmill: Attributing the Source of Tail Latency through Precise Load Testing and Statistical Inference. *Proceedings of the 43rd ACM/IEEE International Symposium on Computer Architecture.* **(ISCA 2016)**

- Acceptance Rate: 20%
- Open Source Release: `https://github.com/facebook/treadmill`

Michael A. Laurenzano, Yunqi Zhang, Jiang Chen, Lingjia Tang, Jason Mars. PowerChop: Identifying and Managing Non-Critical Units in Hybrid Processor Architectures. *Proceedings of the 43rd ACM/IEEE International Symposium on Computer Architecture.* **(ISCA 2016)**

- Acceptance Rate: 20%

Johann Hauswald, Michael A. Laurenzano, Yunqi Zhang, Hailong Yang, Yiping Kang, Cheng Li, Austin Rovinski, Arjun Khurana, Ronald G. Dreslinski, Trevor Mudge, Vinicius Petrucci, Lingjia Tang, Jason Mars. The Implications on Future Warehouse Scale Computers using Sirius, An Open End-to-End Voice and Vision Personal Assistant. *ACM Transactions on Computer Systems, Volume 34 Issue 1, April 2016.* **(TOCS 2016)**

- Invited Paper

Johann Hauswald, Michael A. Laurenzano, Yunqi Zhang, Cheng Li, Austin Rovinski, Arjun Khurana, Ronald G. Dreslinski, Vinicius Petrucci, Trevor Mudge, Lingjia Tang, Jason Mars. Sirius: An Open End-to-End Voice and Vision Personal Assistant and Its Implications for Future Warehouse Scale Computers. *Proceedings of the 20th International Conference on Architectural Support for Programming Languages and Operating Systems.* **(ASPLOS 2015)**

- Acceptance Rate: 17%
- IEEE Micro Top Picks
- Open Source Release: `http://lucida.ai`

Chang-Hong Hsu, Yunqi Zhang, Michael A. Laurenzano, David Meisner, Thomas Wenisch, Lingjia Tang, Jason Mars, Ronald G. Dreslinski. Adrenaline: Pinpointing and Reining in Tail Queries with Quick Voltage Boosting. *Proceedings of the 2015 IEEE 21st International Symposium on High Performance Computer Architecture.* **(HPCA 2015)**

- Acceptance Rate 22%

Vinicius Petrucci, Michael A. Laurenzano, John Doherty, Yunqi Zhang, Daniel Mosse, Jason Mars, Lingjia Tang. Octopus-Man: QoS-Driven Task Management for Heterogeneous Multicore in Warehouse Scale Computers. *Proceedings of the 2015 IEEE 21st International Symposium on High Performance Computer Architecture.* **(HPCA 2015)**

- Acceptance Rate 22%

Yunqi Zhang, Michael Laurenzano, Jason Mars, Lingjia Tang. SMiTe: Precise QoS Prediction on Real-System SMT Processors to Improve Utilization in Warehouse Scale Computers. *Proceedings of the 47th Annual IEEE/ACM International Symposium on Microarchitecture.* **(MICRO 2014)**

- Acceptance Rate 19%

Michael Laurenzano, Yunqi Zhang, Lingjia Tang, Jason Mars. Protean Code: Achieving Near-Free Online Code Transformations for Warehouse Scale Computers. *Proceedings of the 47th Annual IEEE/ACM International Symposium on Microarchitecture.* **(MICRO 2014)**

- Acceptance Rate 19%

PATENTS

Ricardo Bianchini, William Clausen, Marcus Fontoura, Inigo Goiri, Yunqi Zhang. Resource Oversubscription based on Utilization Patterns in Computing Systems. *U.S. Patent Application: 20180060134, March, 2018*

INVITED TALKS

Treadmill: Tail Latency Measurement at Microsecond-Level Precision
Tutorial at 22nd International Conference on Architectural Support for Programming Languages and Operating Systems (ASPLOS). Apr. 2017

Set-up and Run Your Own Intelligent Personal Assistant.
Tutorial at Penguicon 2016. May. 2016

Lucida: Infrastructure to Study Emerging Intelligent Web Services.
Tutorial at the 22nd International Symposium on High Performance Computer Architecture (HPCA). Mar. 2016

Sirius: An Open End-to-End Voice and Vision Personal Assistant.
Tutorial at 20th International Conference on Architectural Support for Programming Languages and Operating Systems (ASPLOS). Apr. 2015

SMiTe: Precise QoS Prediction on Real-System SMT Processors to Improve Utilization in Warehouse Scale Computers.
Institute of Computing Technology, Chinese Academy of Science. Dec. 2014

EXPERIENCE

Chief Information Officer Jan. 2018 - Present
Clinc, Inc, Ann Arbor, MI

Graduate Student Researcher Sep. 2013 - Present
University of Michigan, Ann Arbor, MI

Software Engineer Jan. 2016 - Dec. 2017
Clinc, Inc, Ann Arbor, MI

Research Intern Jun. 2015 - Aug. 2015
Microsoft Research, Redmond, WA

Research Collaborator Oct. 2014 - Mar. 2015
Facebook, Menlo Park, CA

Research Intern May. 2014 - Aug. 2014
Facebook, Menlo Park, CA

Software Engineer Intern Jun. 2013 - Oct. 2013
Facebook, Menlo Park, CA

Graduate Student Researcher Sep. 2012 - Jun. 2013
University of California, San Diego, CA

Software Engineer Intern Nov. 2011 - Jan. 2012
IBM, Beijing, China

Research Intern Jul. 2011 - Nov. 2012
Institute of Computing Technology, Chinese Academy of Sciences, Beijing, China

TEACHING

Graduate Student Instructor Winter 2017
Compiler Construction (University of Michigan, EECS 483) `4.6/5.0`

Graduate Student Instructor Fall 2015
Advanced Compiler (University of Michigan, EECS 583) `4.9/5.0`

HONORS

Scholarship for the Celebration of the 50 Years of the ACM Turing Award, 2017
Rackham Predoctoral Fellowship, 2017
Excellent Graduate Student Instructor Award, 2016
Facebook Fellowship Finalist, 2015
Chinese Academy of Sciences Scholarship, 2012
National Scholarship, 2011
Microsoft Scholarship, 2010

SERVICE

Organizing Committee

- Co-organizer: ASPLOS 2018 shadow PC
- Submission chair: CGO 2017
- Submission chair: CGO 2015

Reviewer

- EuroSys 2017: Shadow PC member
- Journals: TACO, TPDS, TBD, PLOS ONE
- External Reviewer: ASPLOS 2018, HPCA 2018, ISCA 2017, ASPLOS 2017, HPCA 2017, MICRO 2016, ISCA 2016, ASPLOS 2016, HPCA 2016, MICRO 2015, ISCA 2015, ASPLOS 2015, ISPASS 2015, HPCA 2015, CGO 2015, MICRO 2014, IISWC 2014, ISCA 2014

Others

- Moderator: Computer Engineering Labs (CELAB) reading group at UMich, 2016 - 2017

MENTORING

- Yiping Kang, Ph.D. student at University of Michigan
- Shih-Chieh Lin, Ph.D. student at University of Michigan
- Austin Rovinski, Ph.D. student at University of Michigan
- Xiaowei Wang, Ph.D. student at University of Michigan
- Arjun Khurana, Master student at University of Michigan
- Moeiz Riaz, Undergraduate student at University of Michigan
- Hang Yu, Undergraduate student at University of Michigan
- Zhiyi Fan, Undergraduate student at University of Michigan
- John Doherty, Undergraduate student at University of Michigan

REFERENCES

Prof. Jason Mars
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Electrical Engineering and Computer Science
University of Michigan
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profmars@umich.edu

Prof. Lingjia Tang
Assistant Professor
Electrical Engineering and Computer Science
University of Michigan
(734) 763-2548
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Prof. Thomas Wenisch
Associate Professor
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University of Michigan
(734) 647-7959
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Prof. Christos Kozyrakis
Associate Professor
Electrical Engineering and Computer Science
Stanford University
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Dr. Ricardo Bianchini
Chief Efficiency Strategist
Systems Research Group
Microsoft Research
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Dr. David Meisner
Software Engineering Manager
Facebook
meisner@fb.com