

Pengfei Su

Assistant Professor
Department of Computer Science and Engineering
University of California, Merced

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Education

- **William & Mary** Williamsburg, VA
Ph.D. in Computer Science
Advisor: Xu Liu
Aug 2016 - Jan 2021
- **Institute of Computing Technology, Chinese Academy of Sciences** Beijing, China
M.S. in Computer Science
Aug 2013 - Jul 2016
- **Yunnan University** Yunnan, China
B.E. in Network Engineering
Aug 2009 - Jul 2013

Work Experiences

- **UC Merced** Merced, CA
Assistant Professor
Jan 2021- Present
- **Meta** Menlo Park, CA
Research Engineer
May 2020- Nov 2020
- **Uber** Palo Alto, CA
Software Engineering Intern
May 2019 - Aug 2019

Research Interests

- **Programming Languages**
- **Static and Dynamic Program Analysis**
- **High-performance/Parallel Computing**
- **Machine Learning Systems**

Publications

- **[TACO'23]** "MicroProf: Code-level Attribution of Unnecessary Data Transfer in Microservice Applications", Syed Salauddin Mohammad Tariq, Lance Menard, **Pengfei Su**, Probir Roy. ACM Transactions on Architecture and Code Optimization, Aug 2023. Original Work
- **[HIPS'23]** "Designing Secure Performance Metrics for Last-Level Cache", Probir Roy, Birhanu Eshete, **Pengfei Su**. The 28th International Workshop on High-Level Parallel Programming Models and Supportive Environments, May 15, 2023, Petersburg, FL, USA.
- **[ASPLOS'23]** "DrGPUM: Guiding Memory Optimization for GPU-accelerated Applications", Mao Lin, Keren Zhou, **Pengfei Su**. The 28th International Conference on Architectural Support for Programming Languages and Operating Systems, Mar 25-29, 2023, Vancouver, BC, Canada.
- **[CGO'23]** "DJXPerf: Identifying Memory Inefficiencies via Object-centric Profiling for Java", Bolun Li, **Pengfei Su**, Milind Chabbi, Shuyin Jiao, Xu Liu. The IEEE/ACM International Symposium on Code Generation and Optimization, Feb 25-Mar 1, 2023, Montreal, QC, Canada.

- [PyTorch Conference’22] “Poster: Squeezing GPU Memory Usage in PyTorch”, Mao Lin, Keren Zhou, Pengfei Su.
- [ICSE’22] “OJXPerf: Featherlight Object Replica Detection for Java Programs”, Bolun Li, Hao Xu, Qidong Zhao, **Pengfei Su**, Milind Chabbi, Shuyin Jiao, Xu Liu. The 44th IEEE/ACM International Conference on Software Engineering, May 8-27, 2022, Pittsburgh, PA, USA.
- [SC’19] “Pinpointing Performance Inefficiencies via Lightweight Variance Profiling”, **Pengfei Su**, Shuyin Jiao, Milind Chabbi, Xu Liu, The International Conference for High Performance Computing, Networking, Storage and Analysis, Nov 17-22, 2019, Denver, CO, USA.
- [ESEC/FSE’19] “Pinpointing Performance Inefficiencies in Java”, **Pengfei Su**, Qingsen Wang, Milind Chabbi, Xu Liu, The 27th ACM Joint European Software Engineering Conference and Symposium on the Foundations of Software Engineering, Aug 26 - 30, 2019, Tallinn, Estonia.
- [ICSE’19] “Redundant Loads: A Software Inefficiency Indicator”, **Pengfei Su**, Shasha Wen, Hailong Yang, Milind Chabbi, Xu Liu, The 41st IEEE/ACM International Conference on Software Engineering, May 25 - Jun 1, 2019, Montreal, Canada. **ACM SIGSOFT Distinguished Paper Award**
- [PPoPP’19] “Lightweight Hardware Transactional Memory Profiling”, Qingsen Wang, **Pengfei Su**, Milind Chabbi, Xu Liu, The 24th ACM SIGPLAN Symposium on Principles and Practice of Parallel Programming, Feb 16-20, 2019, Washington, D.C.. **Best Paper Award**

Honors and Awards

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|---|----------------|
| • Stephen K.Park Graduate Research Award, William & Mary | 2020 |
| • ACM SIGSOFT Travel Grant, ESEC/FSE’19 | 2019 |
| • Distinguished Paper Award, ICSE’19 | 2019 |
| • Best Paper Award, PPoPP’19 | 2019 |
| • ACM SIGPLAN Travel Grant, PPoPP’19 | 2019 |
| • NSF Travel Grant, PPoPP’19 | 2019 |
| • Outstanding Student Award (Top 5%), Chinese Academy of Sciences | 2014/2015 |
| • Outstanding Student Award (Top 3%), Yunnan University, China | 2010/2011/2012 |

Grants

- [NSF’21] “Collaborative Research: CNS Core: SMALL: DrGPU: Optimizing GPU Programs via Novel Profiling Techniques”, PI, \$249,985
- [NSF’23] “IUCRC Preliminary Proposal Planning Grant UC Merced: Center for Memory System Research (CEMSYS)”, Co-PI, \$20,000
- [UC Merced] Academic Senate Faculty Grant, Sole PI, \$5,000

Professional Services

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| • Organization Committee | CLUSTER’21 (session chair), HDIS’21 (session chair) |
| • Program Committee | PPoPP’24 (ERC), IPDPS’23, CLUSTER’23, ICPADS’22, HIPS’21, LCTES’21 |
| • Artifact Evaluation Committee | ASPLOS’20, CGO’18/19/20, PPoPP’18/19/21 |
| • Conference Reviewer | CLUSTER’21, HPCA’20, CGO’20, IPDPS’20, BIGCOM’19, ICPP’17/19/20, HIPS’17 |

- Journal Reviewer TECS
- Conference Volunteer ASPLOS'18

University Services

- CSE Undergraduate Committee 2021 - Present
- CSE Faculty Search Committee 2021 - 2022, 2022 - 2023

Teaching

- **UC Merced** Merced, CA
Instructor for Introduction to Object-orientated Programming (CSE165) *Fall 2021/2022*
- **UC Merced** Merced, CA
Instructor for Compiler Construction (EECS254) *Spring 2022/2023, Fall 2023*
- **College of William & Mary** Williamsburg, VA
Teaching Assistant for Principles of Programming Languages (CSCI312) *Spring 2018, Fall 2017*
- **College of William & Mary** Williamsburg, VA
Teaching Assistant for Algorithms (CSCI303) *Spring 2017, Fall 2016*

Students

- Haide He (Ph.D. student) Jan 2024 - Present
- Xingjian Ding (Ph.D. student) Aug 2023 - Present
- Mao Lin (Ph.D. student) Aug 2021 - Dec 2023
- Tahea Hossain (Undergraduate) Summer 2021