

# Pengfei Su

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

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## Education

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- **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

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- **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

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

## Publications

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- **[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

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- **[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’21/24    |
| • 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

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- CSE Undergraduate Committee 2021 - Present
- CSE Faculty Search Committee 2021 - 2022, 2022 - 2023, 2023 - 2024

## Teaching

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- **UC Merced** Merced, CA  
*Instructor for Introduction to Compiler Construction (CSE141)* *Spring 2024*
- **UC Merced** Merced, CA  
*Instructor for Compiler Construction (EECS254)* *Spring 2022/2023, Fall 2023*
- **UC Merced** Merced, CA  
*Instructor for Introduction to Object-orientated Programming (CSE165)* *Fall 2021/2022*
- **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

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- 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