Fang Zhou

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Fang's Homepage

Education

2015 - Now	**Ph.D.** in Computer Science, The Ohio State University Committee members: Dr. Yang Wang (Chair), Dr. Xiaodong Zhang, and Dr. Feng Qin
2013 - 2015	**M.S.** in Computer Science, Auburn University
2010 - 2012	**M.E.** in Computer Science, Harbin Institute of Technology
2006 - 2010	**B.E.** in Computer Science, Central South University

Research Interests

Performance Analysis, Operating Systems, and Distributed Systems.

Publications

OSDI'18	**Fang Zhou**, Yifan Gan, Sixiang Ma, and Yang Wang. "wPerf: Generic Off-CPU Analysis to Identify Bottleneck Waiting Events". The 13th USENIX Symposium on Operating Systems Design and Implementation (OSDI), Carlsbad, CA, October, 2018. *We propose cascaded re-distribution and wait-for graph to identify waiting events that limit the maximal throughput of multi-threaded applications.*
Tech Report'18	**Fang Zhou**, Yifan Gan, Sixiang Ma, and Yang Wang. "wPerf: Generic Off-CPU Analysis to Identify Bottleneck Waiting Events". Technical Report, The Ohio State University, 2018.
SOSP'17 SRC	**Fang Zhou**. "wPerf: Identifying Critical Waiting in Multi-threaded Applications". ACM Student Research Competition (SRC 17) Held in Conjuction with Symposium on Operating Systems Principles (SOSP), Shanghai, China, November, 2017.
NAS'15	**Fang Zhou**, Hai Pham, Jianhui Yue, Hao Zou, and Weikuan Yu. "SFMapReduce: An optimized MapReduce framework for Small Files". The 12th International Conference on Networking, Architecture, and Storage (NAS), Boston, MA, August, 2015. *We introduce SFMapReduce framework to support storing and processing small files efficiently in large-scale data processing systems.*
Tech Report'15	**Fang Zhou**, Huansong Fu, Kevin Vasko, and Weikuan Yu. "A New Large-Scale Cloud Image Processing Framework using MapReduce". Technical Report, Auburn University, 2015.
CISP'09	Changyun Miao, **Fang Zhou**, Chunqing Ye, and Jing Liu. "Design of an Ultrasonic Detecting System Based on LabVIEW". The 2nd International Congress on Image and Signal Processing (CISP), Shanghai, China, 2009.

TMT'09	Hua Fu, Dan Zhao, **Fang Zhou**. "Research on Application of RS-RBF Information Fusion in Gas Monitoring". Transducer and Microsystem Technologies, 2009.

Working papers

In submission	**Fang Zhou**, Yuyang Huang, Sixiang Ma, and Yang Wang. "VarMRI: Kernel Support for Performance Variance Analysis". *We propose VarMRI, a tool to analyze performance variance caused by kernel and hardware events. In VarMRI, we use partial online recording and offline inferences with domain-specific knowledge to identify events causing performance variance.*
In submission	Sixiang Ma, **Fang Zhou**, Mike Bond, and Yang Wang. "Finding Unsafe Heterogeneous Configuration in Cloud Systems". *We propose an automatic framework to identify heterogeneous configuration bug in cloud systems. We synthesize new unit tests based on existing ones and operate heterogeneous configuration randomly to expand search space.*

Selected Honors and Awards

2020	Nomination of OSU Graduate Associate Teaching Award (University-Level)
2017 - 2019	Student Travel Grant for SOSP 2017, OSDI 2018, and SOSP 2019
2018	Selected for Poster Round in SOSP SRC 2017
2013 - 2015	Woltosz Fellowship at Auburn University
2006	Outstanding Freshman Scholarship at Central South University

Selected Projects

2019 - 2020	VarMRI: Kernel Support for Performance Variance Analysis.
2018 - 2019	TailMRI: a Fine-grained and Low-overhead Tail Latency Analysis Tool.
2016 - 2018	wPerf: a Tool to Help Identifying Bottleneck Waiting Events. *This project has been released on Github and receives 26 stars.*
2014 - 2015	SFMapReduce: an Optimized Framework for Small Files based on Hadoop.

Professional Services

OSDI 2020	Artifact Evaluation Committee
ASPLOS 2020	Artifact Evaluation Committee
EuroSys 2020	Shadow PC
SOSP 2019	Artifact Evaluation Committee

Industry Experience

Summer, 2020	Ph.D. Intern, Facebook, Inc. Mentor: Dr. Jason Flinn *Worked in Hedwig team, which provides a unified distribution system for high fanout large data in Facebook. Designed and implemented the Hedwig emulator to help find the optimal configurations for different Hedwig users.*