Wang, Chenxi

Postdoctoral Researcher
Computer Science Department, Samueli School of Engineering
University of California, Los Angeles (UCLA)
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EDUCATION

Ph.D. 09/2013 - 07/2018
Institute of Computing Technology, Chinese Academy of Sciences (University of Chinese Academy of Sciences) , Beijing, China.
Advisor: Prof. Xiaobing Feng.
My research focuses on programming language and managed runtime systems.

B.Eng 09/2009 - 07/2013
Tianjin University, Tianjin, China.
Major in Computer Science and Technology.

WORK EXPERIENCE

10/2018 - now Postdoctoral researcher
University of California, Los Angeles (UCLA), California , U.S.
Advisor: Prof. Harry Xu.

RESEARCH PROJECT

My current research is to build semantics-aware, cross-layer systems for warehouse-scale computers. Please check the Research Statement for more details.

SERVICE

[1] Virtual Execution Environments, VEE 2022, Program Committee.

[2] ACM International Conference on Architectural Support for Programming Languages and Operating Systems, ASPLOS 2022, External Program Committee (ERC).

[3] Virtual Execution Environments, VEE 2021, Program Committee.

[4] ACM SIGPLAN International Symposium on Memory Management, ISMM 2021, External Review Committee (ERC).

[5] ISC High Performance 2020, Programming Models & Systems Software track, Program Committee.

FUND

[1] NSF medium grant on redesign of data plane for memory-disaggregated datacenters (Role: Senior Personnel).

[2] NSF small grant on Big Data over resource disaggregation (Role: Senior Personnel).

PUBLICATIONS

[1] Chen Lei, Jiacheng Zhao, **Chenxi Wang**, Ting Cao, John Zigman, Haris Volos, Onur Mutlu, Fang Lv, Xiaobing Feng, Guoqing Harry Xu, and Huimin Cui. Unified Holistic Memory Management Supporting Multiple Big Data Processing Frameworks over Hybrid Memories, ACM Transactions on Computer Systems (TOCS), 2022 (Accepted)

[2] Bowen Tang, Chenggang Wu, Zhe Wang, Lichen Jia, Pen-Chung Yew, Yueqiang Cheng, Yinqian Zhang, **Chenxi Wang**, and Guoqing Harry Xu. SPECBOX: A Label-Based Transparent Speculation Scheme Against Transient Execution Attacks, IEEE Transactions on Dependable and Secure Computing (TDSC), 2022 (Accepted)

[3] Zhiqiang Zuo, Kai Wang, Aftab Hussain, Ardalan Amiri Sani, Yiyu Zhang, Shenming Lu, Wensheng Dou, Linzhang Wang, Xuandong Li, **Chenxi Wang**, and Guoqing Harry Xu. Systemizing Interprocedural Static Analysis of Large-Scale Systems Code with Graspan, ACM Transactions on Computer Systems (TOCS), 2021

[4] **Chenxi Wang**, Haoran Ma, Shi Liu, Yuanqi Li, Zhenyuan Ruan, Khanh Nguyen, Michael D. Bond, Ravi Netravali, Miryung Kim, and Guoqing Harry Xu. Semeru: A Memory-Disaggregated Managed Runtime. In Proceedings of the 14th USENIX Symposium on Operating Systems Design and Implementation (OSDI), 2020.

[5] **Chenxi Wang**, Huimin Cui, Ting Cao, John Zigman, Haris Volos, Onur Mutlu, Fang Lv, Xiaobing Feng, and Guoqing Harry Xu. Panthera: holistic memory management for big data processing over hybrid memories. In Proceedings of the 40th ACM SIGPLAN Conference on Programming Language Design and Implementation (PLDI), Phoenix, AZ, USA, 347-362, 2019.

[6] **Wang Chenxi**, Lv Fang, Cui Huimin, Cao Ting, John Zigman, Zhuang Liangji, and Feng Xiaobing. Heterogeneous Memory Programming Framework based on Spark for Big Data Processing. Journal of Computer Research and Development, 55(2), 2018.

[7] Danqi Hu, Fang Lv, **Chenxi Wang**, Huimin Cui, Lei Wang, Ying Liu and Xiaobing Feng. NVM Streaker: a fast and reconfigurable performance simulator for non-volatile memory-based memory architecture. Journal of Supercomputing, 74(8), Springer, 2018

[8] **Chenxi Wang**, Ting Cao, John Zigman, Fang Lv, Yunquan Zhang, and Xiaobing Feng. Efficient Management for Hybrid Memory in Managed Language Runtime. In the 13th IFIP International Conference on Network and Parallel Computing (NPC), Xi'an, China, 2016.

Papers under review

[1] **Chenxi Wang***, Yifan Qiao* (co-first), Haoran Ma, Shi Liu, yiying Zhang, Wenguang Chen, Ravi Netravali, Miryung Kim, and Guoqing Harry Xu. Canvas: Isolated and Adaptive Swapping for Multi-Applications on Remote Memory. In Proceedings of the 19th USENIX Symposium on Networked Systems Design and Implementation (NSDI '23) *One-Shot Revision and Resubmit to NSDI'23 Spring*, 2023.

[2] **Chenxi Wang***, Haoran Ma* (co-first), Shi Liu, Yifan Qiao, Jonathan Eyolfson, Christian Navasca, Shan Lu, and Guoqing Harry Xu. MemLiner: Lining up Tracing and Application for a Far-Memory-Friendly Runtime. In Proceedings of the 16th USENIX Symposium on Operating Systems Design and Implementation (OSDI'22), *Under review*, 2022.

[3] Haoran Ma, Shi Liu, **Chenxi Wang**, Yifan Qiao, Michael D. Bond, Steve Blackburn, Miryung Kim, and Guoqing Harry Xu. Mako: A Low-Pause, High-Throughput Evacuating Collector for Memory-Disaggregated Datacenters. In Proceedings of the 43rd ACM SIGPLAN Conference on Programming Language Design and Implementation (PLDI 2022), *Under review*, 2022.

HONORS and AWARDS

UCLA Chancellor's award for postdoctoral research nomination, 2021

Merit Student of University of Chinese Academy of Sciences, 2017

Excellent Student of Institute of Computing Technology, Chinese Academy of Sciences, in 2014

Merit Student of Tianjin University, in 2010, 2011, 2012