Xiangpeng Hao

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EDUCATION

University of Wisconsin Madison, WI
Ph.D. (fellowship) in Computer Science Sept. 2020 - June. 2025(expected)

Simon Fraser University, Vancouver, Canada
Bachelor of Science (Dual Degree), Computer Science Sept. 2017 - June. 2020

Zhejiang University, Hangzhou, China
Bachelor of Engineer (Dual Degree), Computer Science Sept. 2015 - June. 2020

RESEARCH EXPERIENCE

Research Assistant (UW-Madison) Madison, WI
Advisor: Prof. Remzi H. Arpaci-Dusseau Jan. 2024 - Present
Data/storage systems.

Research Assistant (UW-Madison) Madison, WI
Advisor: Prof. Xiangyao Yu Sept. 2021 - Dec. 2023
Study the cloud-native database design, focusing on designing database systems for emerging multi-tier memory (e.g., far memory, disaggregated memory, RDMA, PM) systems.

Researcher at Shanghai Qizhi Institute Shanghai, China
Advisor: Prof. Yihan Gao (Tsinghua University) Sept. 2020 - Sept 2021
Explored the design principles of next-generation OLTP systems with persistent memory.

Research Assistant in Database Group (SFU) Vancouver, BC
Advisor: Prof. Tianzheng Wang Dec. 2018 - Aug. 2020
Researched data-intensive systems and related topics that impact the design of database systems, especially how persistent memory will impact the database index design.

WORK EXPERIENCE

Microsoft Research Redmond, WA
Research Intern May. 2023 - Aug. 2023
Designed and developed a new larger-than-memory index, which is used as the new range scan engine for a internal database system.

Google Sunnyvale, CA
Software Engineer Intern (Ph.D.) May. 2022 - Aug. 2022
Worked on database (Bigtable) behavior modeling, auto-tuning, and performance analyzing.

PUBLICATIONS

Xiangpeng Hao, Xinjing Zhou, Xiangyao Yu, Michael Stonebraker. **Towards Buffer Management with Tiered Main Memory.** *SIGMOD 2024, to appear.*

Hokeun Cha, **Xiangpeng Hao**, Tianzheng Wang, Huanchen Zhang, Aditya Akella, Xiangyao Yu **Blink-hash: An Adaptive Hybrid Index for In-Memory Time-Series Databases** *Proceedings of the VLDB Endowment (VLDB 2023)*

Jiaxin Lin, Tao Ji, Xiangpeng Hao, Hokeun Cha, Yanfang Le, Xiangyao Yu, Aditya Akella **Towards Accelerating Data Intensive Application's Shuffle Process Using SmartNICs** *Proceedings of the ACM on Measurement and Analysis of Computing Systems*

Baotong Lu, **Xiangpeng Hao**, Tianzheng Wang, Eric Lo. **Scaling Dynamic Hash Tables on Real Persistent Memory. (invited)** *SIGMOD Record 2021, Volume*

50, Issue 1.

Xiangpeng Hao, Lucas Lersch, Tianzheng Wang, Ismail Oukid. **PiBench Online: Interactive Benchmarking of Persistent Memory Indexes** *: 45th International Conference on Very Large Data Bases (VLDB 2020 demo)*

Baotong Lu, **Xiangpeng Hao**, Tianzheng Wang, Eric Lo. **DASH: Dynamic and Scalable Hashing on Persistent Memory**. *45th International Conference on Very Large Data Bases (VLDB 2020)*

Lucas Lersch, **Xiangpeng Hao**, Ismail Oukid, Tianzheng Wang, Thomas Willhalm. **Evaluating Persistent Memory based Range Indexes.** *45th International Conference on Very Large Data Bases (VLDB 2020)*

Xiangpeng Hao, Brian Funt, Hanxiao Jiang. **Evaluating Colour Constancy on the new MIST dataset of Multi-Illuminant Scenes.** *27th Color Image Conference, oral preview (CIC 2019)*

Xiangpeng Hao, Brian Funt. **A Multi-illuminant Synthetic Image Test Set.** *Color Research and Application*

AWARDS

Inaugural CRSC Student Award for Canadian Colour Research	May 2020
Sciences Undergraduate Research Student Award (VPR)	May 2019
SFU Undergraduate Open Scholarship	
SFU Entrance Scholarship	Sept. 2017
China National VEX Competition (Gold medal)	Jul. 2015