Xiangpeng Hao

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EDUCATION

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

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

RESEARCH EXPERIENCE

Research Assistant in Database Group — Vancouver, CA
Advisor: Prof. Tianzheng Wang — Dec. 2018 - Present
Researched on data-intensive systems and related topics that impact the design of database systems, especially how persistent memory will impact the database index design.

Joint Research With PDCL — Vancouver, CA
Advisor: Prof. Keval Vora — July. 2019 - Present
Joint research with Parallel & Distributed Computing Lab (PDCL) on a new concurrency control protocol, which features relaxed-consistency requirements and efficient NUMA-aware memory management.

Research Assistant in Computer Vision Group — Vancouver, CA
Advisor: Prof. Brian Funt — Feb. - Dec. 2018
Researched on colour constancy algorithms and related topics that guide the colour constancy research.

Teaching Assistant for Operating System — Vancouver, CA
Explaining theory behind modern operating systems to 2nd-year — May - Aug. 2019
Undergraduate student and guiding them in lab practicals.

PUBLICATIONS

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) [under review]*

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. **A Multi-illuminant Synthetic Image Test Set.** *IEEE Transactions on Image Processing (IEEE TIP) [under review]*

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)*

RESEARCH PROJECTS

Open-source BzTree Implementation — Dec. 2018 - May 2019
Implemented a fully-functional BzTree in C++ and benchmarked on both main memory and persistent memory. Extended PMwCAS to allow safe allocation, and also extended its API so that PMwCAS can support more real world use cases.

Spectral Renderer — July. - Dec. 2018
Extended Blender Cycles to allow physically-accurate spectral rendering. It is the first and only rendering engine that supports texture spectral rendering, and it is used to generate physically colour-accurate images that help the computer vision community.

AWARDS

Sciences Undergraduate Research Student Award (VPR) — May - Aug. 2019
SFU Undergraduate Open Scholarship
SFU Entrance Scholarship — Sept. 2017
China National VEX Competition (Gold medal, captain) — Jul. 2015