ZHENGHONG YU

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EDUCATION

University of Wisconsin-Madison *Sep 2024 - Now*
Ph.D. in Computer Science

University of Wisconsin-Madison *Jan 2023 - Dec 2023*
Undergraduate Visiting Scholar

ShanghaiTech University *Sep 2020 - July 2024*
B.E. in Computer Science and Technology

SKILLS

Programming Language: C, C++, Cuda, Python, Rust, SQL, Java, Shell
Framework/Tool: PyTorch, Flask, Tokio, Apache, Git, Docker

EXPERIENCE

Database Group, University of Wisconsin Madison *Jan 2025 - Now*
Research Intern, mentored by Prof. Paris Koutris

- Developing a scalable distributed database system built on differential dataflow that efficiently processes large-scale data and dynamically updates computations.

System Group, University of Wisconsin Madison *Jan 2025 - Now*
Research Intern, mentored by Prof. Andrea C. Arpaci-Dusseau

- Developing a multi-tier memory system with a self-tuning page movement policy for optimal performance across diverse memory architectures.

Multi-Robot Group, Carnegie Mellon University *Mar 2023 - Now*
Research Intern, mentored by Prof. Jiaoyang Li

- Designed a cache locking and replacement protocol for lifelong multi-agent path finding.
- Our novel cache design results in 1.2x throughput compared to implementation without caching, when ran on standard industry warehouse workloads.

Database Group, University of Wisconsin-Madison *May 2023 - Mar 2024*
Research Intern, mentored by Prof. Xiangyao Yu

- Developed a novel, scalable consistency and concurrency protocol for iterative transactions in deterministic DBMSs.
- Implemented a distributed deterministic DBMS, Mimosa, from scratch that includes our protocols.
- Evaluated Mimosa on TPC-C and YCSB benchmarks, showing it outperforms 2PC and other standard concurrency control protocols in highly distributed DBMSs.

TEACHING EXPERIENCE

CS 220 Data Science Programming I TA, UW-Madison *Jan 2025 - Now*
CS 564 DB Management Systems: Design and Implementation TA, UW-Madison *Sep 2024 - Dec 2024*

AWARDS

2024 University of Wisconsin-Madison Teaching Assistant Scholarship
2023 ShanghaiTech University Exchange Program Scholarship
2022 RoboMaster University Championship (RMUC) National Second Prize
2021 Outstanding Individual of Social Pratice at ShanghaiTech University