

YUEWEN HOU

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EDUCATION

Bachelor of Computer Science, University of Michigan, Ann Arbor Expected 2023
GPA:4.00/4.00

Relevant Coursework: Intro to OS, Web System, Computer Architecture, Quantum computer architecture and system, Compiler construction.

Bachelor of Electrical Computer Engineering, Shanghai Jiao Tong University Expected 2023

EXPERIENCE

Research Assistant Aug 2023 - Present
University of Michigan *Ann Arbor, MI*
Advisor: [Gokul Subramanian Ravi](#)

- Cloud resource management for quantum computers.
- Add clifford circuit pass to maintain circuit structure and generate dependable process fidelity.
- Maintain fairness and high efficiency for resource allocation for variational quantum algorithm iterations.

Research Assistant Jan 2023 - Now
University of Michigan *Ann Arbor, MI*
Advisor: [Baris Kasikci](#)

- Improving btb replacement policies with fetch directed instruction prefetching using Champsim on google data center's traces.
- Optimizing general caching problem with variational size for non-blocking cache design.

Research Assistant Apr 2023 - Aug 2023
University of Michigan, Nuclear Engineering & Radiological Sciences *Ann Arbor, MI*
Advisor: [Brendan Kochunas](#)

- Using numerical methods and parallel algorithms for high-fidelity computational reactor physics. Implemented a C++ library to simulate the reactor in unstructured meshes by ray tracing.
- Implement ray tracing for poly mesh. Rewrite essential C++ standard library container and algorithm to support GPU programming
- Benchmark and unit test the functionality as well as the library's efficiency.

Teaching Assistant For Quantum Information Science and technology May 2023 - August 2023
UM-SJTU Joint Institute *Shanghai, China*
Instructor: [L Jay Guo](#)

Teaching Assistant For Introduction to Engineering (Software engineering track) May 2022 - August 2022
UM-SJTU Joint Institute *Shanghai, China*
Instructor: [Manuel Charlemagne](#)

PROJECTS

The University of Michigan Unstructured Mesh (UM^2) The library provides a set of tools for automatic Coarse Mesh Finite Difference and Method of Characteristics mesh generation for CAD models, as well as tools for fast, robust ray tracing, geometric queries, and mesh analysis. Responsible for implementing morton sort to map the storage of point to better leveraging spatial locality of modern processor. Using google test framework to test self-implementing standard cpp library to fit the need of gpu computing.

Multi-threaded network file server. Using network socket protocol and standard Cpp thread and mutex library to implemented a fault-tolerant system file server.