

RESEARCH INTERESTS

My academic and research interests lie in the fields of systems, computer networks, and distributed computing. I am particularly passionate about exploring research opportunities that contribute to the development of more efficient, reliable, and resilient computer systems.

EDUCATION

University of Michigan, Ann Arbor, MI

B.S.E. in Computer Science

Graduated December 2024

Coursework: Computer Network, Practical Data Science, Conversational AI, Web Systems, Software Engineering, Data Structures and Algorithms, Probabilities, and Linear Algebra.

EMPLOYMENT

University of Michigan, Ann Arbor, MI

Grader

January 10, 2024 – December 18, 2024

PROJECTS

University of Michigan, Ann Arbor, MI

- **Connectify**

May 2024

- Developed a team-building platform as part of a human-centered software engineering course in collaboration with a partner.
- Key Features:
 - * Allows users to register, self-identify, and describe their skills to form professional teams.
 - * Users can search for others with complementary skills to collaborate on projects.
 - * Integrated real-time chat for intra-team communication.
- Technologies Used:
 - * Backend: Flask, SQLite3, REST API.
 - * Frontend: HTML, Tailwind CSS, React.js.
 - * Automated build process with shell scripting.

- **Distributed Search Engine**

June 2024

- Developed a fault-tolerant MapReduce framework and deployed it on multiple hosts.
- Implemented Map and Reduce algorithms to calculate tf-idf inverted index for 100,000 articles.
- Used Flask as the backend server to generate search recommendations based on PageRank and cosine similarity between the query vector and document vectors.

- **Autonomous Robotic Vehicle Computer Vision Sub-team Project**

Jan 2023 – Dec 2024

- Implemented the Kalman filter to help estimate the future position of the lane lines based on the given past positions in the dataset.
- Created a realistic environment for the computer vision model training using Unreal Engine 5 as well as collecting dataset from the environment for the model training purposes.

- **Grace Hash Join Implementation**

December 2023

Implemented the Grace Hash Join algorithm in C++, focusing on efficient memory and disk management, and developed functions for data partitioning and probing.

Honors and Awards

University Honors, University of Michigan

December 2024

Dean's List, University of Michigan College of Engineering

June and December 2024