Haoling Pu

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EDUCATION

University of Michigan at Ann Arbor *April 2025*
Bachelor of Science in Computer Science & Bachelor of Arts in Statistics **GPA: 3.93/4.00**

- Related Coursework: Computer Organization, Web Systems, Programming and Data Structures, Machine Learning

SKILLS

- Language and Database: C++, Python, R, Java, MySQL, SQLite
- Tools and Technologies: Maven, Git, MyBatis-plus, Nacos, Sentinel, Spring Boot, Postman, Flask

WORK EXPERIENCE

Microsoft — Software Development Engineer Intern *June2024 - Sep 2024*

- Designed a MySQL database for a Backend News System on Microsoft's MSN website, managing content, user, and advertisement data with MyBatis Plus for streamlined CRUD operations in an MVC framework.
- Developed multiple RESTful APIs and integrated OAuth2 and JWT token-based authentication and conducted rigorous testing with Postman to ensure system reliability and performance.
- Implemented Spring Boot Admin for real-time system monitoring, Nacos for service discovery and dynamic configuration, and Sentinel for flow control and service stability.

Aviage Systems — Software Development Engineer Intern *June 2023 - Sep 2023*

- Engineered a Python-based system to convert and process real-time data from 13 aircraft sensors, optimizing data flow to critical Flight Control Systems, achieving full customer satisfaction with 100% accurate data transmissions.
- Automated data manipulation using Pandas and Openpyxl with integrated JSON configurations, reducing manual effort by 70% and improving overall processing efficiency; enhanced fault tolerance and system usability with reusable functions.

PROJECT EXPERIENCE

Web developer, ***Instaclone Web*** *Jan 2024-Mar 2024*

- Engineered an Instagram-like web application, focusing on server-side rendering for responsive UI, integrating features for comments and likes to enhance user experience.
- Implemented a SQLite database and custom shell script for setup, schema updates, and data seeding, using Flask to handle server's route to specific Python functions for robust data integrity.
- Successfully deployed the application to AWS, achieving reliable performance and global internet accessibility.

Elevator, ***Michigan WolverineSoft Club*** *Aug 2023-Sep 2023*

- Designed a dynamic elevator management simulation game, focusing on AI-driven gameplay and achieved top 5% efficiency ranking in the elevator simulation game.
- Developed a novel algorithm based on passenger count per floor and individual anger indices, reduced 75% of passengers' wait times and stress levels, ensured operating well 95% of the time.

Banking System, ***Michigan WolverineSoft Club*** *Jan 2023-Apr 2023*

- Engineered a secure online banking system using hash tables for efficient user data management, with advanced authentication and transaction validation to prevent fraud.
- Developed a versatile query system for analyzing transactions, customer histories, and daily summaries; implemented a transaction fee system and achieved a 40% increase in profitability for "the WolverineSoft bank".

Zookeeper**,** ***Michigan Hackers*** *Sep 2022-Nov 2022*

- Implemented an efficient route optimization system for zoo maintenance using Prim's Algorithm to efficiently connect all animal cages in a dense-graphed zoo.
- Optimized the zookeeper's cleaning route by implementing the Cheapest Insertion Algorithm to create a Traveling Salesman Problem (TSP) route.
- Enhanced the route's return efficiency using Branch and Bound algorithm, resulting in a 30% decrease in daily operational time and costs.