

Zhihai Hu

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EDUCATION

University of Wisconsin-Madison

Jan. 2022 - May. 2025 (expected)

Bachelor of Science in Computer Science

Madison, WI

Core courses: Data Structure and Algorithm, Database Management Systems, Machine Org and Programming

SKILLS

Programming Languages: C, C++, Java, JavaScript, Python, SQL, HTML, R, LC-3

Frameworks & Technologies: Spring Framework, Spring Boot, Spring Data JPA, Tableau, MySQL, Vue, Axios, DataGrip

Development Tools: IntelliJ, Visual Studio, Docker, Git, Maven, Postman, Vim, LaTeX, Markdown, StarUML, Linux, AWS

WORK EXPERIENCE

Software Engineer Internship | Shanghai Chengyan Environment, LLC

May. 2023 - Jul. 2023

- Collaborated with engineers to design and develop a comprehensive check-in system using **Python, Flask, React, and Vue.js** technologies, effectively automating employee check-in processes.
- Implemented an optimized employee information and records storage system, leveraging **MySQL**, to ensure efficient data processing and management.
- Employed Python's **openpyxl** and **pandas** libraries to automate Excel file analysis, facilitating precise attendance calculations for company managers and saving 10+ manual hours per week.

Software Engineer Internship | Yisen Tech

May. 2022 – Aug. 2022

- Worked with fullstack engineers and PM to develop a robust full-stack ecommerce application using **Spring Boot and Vue.js**, providing seamless user registration, login, and product management functionalities.
- Established a relational **MySQL** database to efficiently store and manage users' personal information and purchased products in a highly organized one-to-many structure.
- Utilized asynchronous submission technology (AJAX) via **Axios** to dynamically update charts upon data modifications, eliminating the need for page refreshes and enhancing user experience.

Business Analytics Externship | HP Tech Ventures

Jul. 2021 - Sep. 2021

- Assisted with the design, development, and maintenance of business intelligence and data analytics systems, using technologies such as **SQL, Python, R, and Tableau**.
- Collaborated with cross-functional teams to understand and analyze business needs and translated them into technical requirements for data and analytics solutions.
- Conducted advanced data analysis on large and complex datasets using regression analysis. Identified patterns, trends, and anomalies, and synthesized meaningful insights and recommendations for the business.

ACADEMIC PROJECTS

UCS Satellite Database | [Python, Vue, Scrapy, DataBase]

Sep. 2023 – Dec. 2023

- Designed an automated data collection process using **Scrapy**, significantly reducing manual data entry and ensuring the latest satellite information.
- Designed and implemented a database using **PostgreSQL** to efficiently manage and store satellite data, supporting complex queries and data analysis.
- Developed an intuitive user interface using **Vue** and **Element.js** to visualize satellite data in an easily accessible style to non-technical users.

Minirel Database Project | [DBMS, SQL, UNIX]

Mar. 2023 – Apr. 2023

- Spearheaded the development of a cutting-edge single-user **DBMS**, designed to execute SQL queries with a **multi-layered architecture** on the **UNIX file system**.
- Successfully implemented heap files, enabling efficient on-disk storage of relations, database catalogs, and utilities, while also providing crucial metadata and tools for seamless system management.
- Innovatively crafted relational operators, empowering the system to efficiently handle a wide range of useful queries and resulting in the realization of a high-performance miniature DBMS.