Yiyang Huo

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EDUCATION

Carnegie Mellon University - Silicon Valley   **Mountain View, CA**
Master of Science in Software Engineering (GPA:3.67/4.0)   09/2022 - 12/2023
Relevant Courses: Data Science Software Engineering, Software Design and Architecture, Distributed Systems, Info Security

University of California, Davis   **Davis, CA**
Bachelor of Science major in Computer Science, minor in Managerial Economics (GPA:3.97/4.0)   09/2018 - 06/2022
Relevant Courses: Data Structures, Algorithm Design and Analysis, Web Programming, Operating Systems,

SKILLS

Programming Skills: Python, C, Swift, C++, JavaScript, SQL, Java, Golang
Tech Stack: Express.js, Flutter, Swift UI, React, ReactNative, Vue.js, Flask, FastAPI, TensorFlow, keras, Spring, LangChain, Docker, Kubernetes, Jenkins, MySQL, MongoDB, CircleCI, Github CI/CD, AWS (EC2, S3, etc), Azure, Google Cloud, Terraform, GraphQL
Languages: English (Fluent), Mandarin (Native)

WORK EXPERIENCE

Power School   **Folsom, CA**
Software Development Engineer Intern   06/2023 - 08/2023
• Designed and implemented the proof of concept for an AI report generating service for Power School's Naviance, powered by Lang Chain, Snow Flake, and Open AI, improving the usability and the extensibility of the reporting system.
• Developed a NLP system to accept user input and generate query statements based on LLM's decision-making. Created automated report generation functionality, incorporating chart plotting and delivering the reports.
• Utilized Snowflake for targeted data retrieval and local caching to enhance performance.
• Developed a chat history storage mechanism using Redis and MySQL to capture and retain user interactions, enabling future decision-making and providing additional information upon user request.
• Implemented Web chat front-end using React, Bootstrap and Socket.IO. Completed back-end using Flask.
• Wrap the whole project using Docker Compose for better deployment.

Baidu   **Beijing, China**
Full Stack Engineer Intern   06/2021 - 09/2021
• Migrated and integrated sensor, lidar, and camera data, totaling approximately 10 thousand rows, into a database, and established a real-time Web API for updates from the main pipeline.
• Developed a comprehensive internal data management system using Vue.js, Flask, ElementUI, and EchartJS, enabling efficient analysis of the 10 thousand rows of data online.
• Implemented scripts within the production pipeline to collect and process data, improving 200% in efficiency.

RESRARCH EXPERIENCE

CMU Database Research Team   **Mountain View, CA**
Research Team Leader   06/2023 - Present
• Conducted extensive research on developing a versatile database management system capable of utilizing both NoSQL and SQL storage types, while maintaining compatibility with a unified query language.
• Led a team in researching and implementing an innovative SQL storage engine, advancing the database technology.
• Communicated with the team to join the storage engine with command parser and to plan the development of virtual machine layer.
• Developed a custom storage engine using a layered structure resembling the implementation of SQLite, employing C++programming language to ensure efficient and reliable performance.
• Introduced an optimized in-memory mutex blocking lock strategy, replacing the non-blocking file lock strategy utilized by SQLite, resulting in enhanced efficiency and improved clarity in managing multi-threaded operations.

Davis Research Team   **Davis, CA**
Research Assistant   06/2021 - 12/2022
• Applied machine learning to train a predictive model using crime rates, historical prices, rents, and nearby school data, resulting in accurate future housing price predictions and informed investment recommendations.
• Enhanced an existing APP by integrating MongoDB, Express.js, and Native Android, enabling interactive display of training and testing results, as well as data analysis drafts.
• Developed a robust web scraper in Python, effectively collecting approximately 50 thousand rows of real estate data from Zillow, specifically focusing on properties in California.

PROJECT EXPERIENCE

Skin Cancer Detection APP "Decancer"   04/2021 - 05/2021
• Designed and developed a highly accurate skin cancer diagnosis app, achieving over 97% accuracy, by implementing a CNN model for both front-end and back-end development. Leveraged technologies such as Express.js, SwiftUI, Firebase, and TensorFlow Keras, utilizing the HAM 10000 dataset.

VPN APP "LimeWhale "   12/2020 - 03/2021
• Created a VPN iOS APP and took responsibility for front end UI design and data flow control design in SwiftUI and C.   •
Integrated an open-source networking tool Potatso into APP, resulting in a user base of over 5,000 individuals.