DINGJIANG LIANG

Santa Cruz, CA • Phone: (831) 332-3587 • Email: davidleung1214@icloud.com

EDUCATION

UNIVERSITY OF CALIFORNIA-SANTA CRUZ, Santa Cruz, CA — September 2020 - June 2024
Bachelor of Science in Computer Engineering — GPA: 3.76/4.00
Coursework: Software Design, Embedded Systems, Computer Network, Principles of Computer Systems Design, Data Structures and Algorithms, Object Oriented Programming, Computer Architect, Signals & Systems, Parallel Programing, Logic Design

TECHNICAL SKILLS

Programming: HTML, CSS, JavaScript (ES6), SQL, Java, Python, C, C++, Matlab, Assembly Languages, Verilog
Frameworks/Libraries: React.js, Tailwind CSS, Express.js, Vitest, React Testing Library
Tools: Node.js, PostgreSQL, Firebase, Git, Github, Visual Studio Code, Figma

WORK EXPERIENCE

UC SANTA CRUZ - POLICE DEPARTMENT, Santa Cruz, CA
Software Engineer — January 2024 - Present
- Lead deployment of RFID inventory system and customized dashboard, incorporating **microcontrollers** for hardware integration and utilizing **React**, **Node.js**, **Express.js**, **PostgreSQL** plus **Material-UI** for dashboard development.
- Implemented **Swagger** and **OpenAPI** to architect and construct **RESTful API endpoints**, streamlining equipment and officer management processes.
- Collaborated closely with end users to gather feedback and iteratively refine designs in **Figma**, resulting in a user-centric interface optimized for usability and visual appeal.

UC SANTA CRUZ - JACK BASKIN ENGINEERING, Santa Cruz, CA
Reader — January 2024 - March 2024
- Engaged in regular meetings with the instructor to discuss grading criteria, address questions, and ensure consistency in evaluation standards.
- Evaluated and provided constructive feedback on homework, papers, laboratory reports, and exams, ensuring alignment with course objectives.

Tutor — March 2023 - June 2023
- Regular meetings are held with faculty to discuss course progress, tutoring programs, and homework problems.
- Provided students explanations and clarifications on the material covered by the professor during class lectures, further enhancing their understanding. Offered tutoring and guidance in completing their assignments.

PROJECTS

HYDROTAG
- Spearheaded the integration of **Google Maps API** to develop a dynamic, interactive map for HydroTag, which can let users find and review the water fountains in the map.
- Implemented **back-end** functionalities using **Firebase** for user authentication, data storage, and real-time database management to ensure user data consistency and secure login processes.
- Utilizing the **Google Routes API**, the routing functionality was designed to facilitate navigation from the current location to the selected fountain, enhancing the user experience and application functionality.

BUGFEST
- Designed and implemented a platform game using **Verilog**, BASYS3 board and a VGA monitor.
- Generated control signals (Hsync and Vsync) and RGB data signals for a 640 x 480 pixel screen, ensuring smooth and synchronized display on the monitor
- Overcame complex challenges during the project, including designing and synchronizing various game components, handling object interactions, and ensuring proper timing and functionality.
- Employed incremental design and thorough testing simulations to debug and refine the system.

MULTI-THREADED HTTP SERVER
- Created an HTTP 1.1 server that processes GET and PUT client requests and responses in **C**.
- Utilized a thread safe pool to handle incoming requests, with a fixed number of threads (4) to serve multiple clients concurrently while ensuring the atomic and consistent linearization of requests
- Developed a thread-safe bounded buffer using a queue structure to efficiently handle multiple client requests.