Kerry Zhang

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Education

University of British Columbia - Vancouver, BC
Bachelor of Applied Science, Electrical Engineering (GPA: 3.65 / 4.00) Sept. 2019 - May 2024
Courses: Data Structures and Algorithms, Object-Oriented Programming, Computing Systems, Deep Learning, Computer Architecture, Digital Systems Design, Microcomputer Systems Design, Embedded Systems

Work Experience

LinuxMagic - Vancouver, BC
Software Engineer Nov. 2024 - Present

- Implemented **C**-based features for email server software that interacted with **PostgreSQL** database and interfaced with **Apache**, **JavaScript**, and **PHP** web interface and REST API, enhancing service for 100+ ISP customers.
- Built a high-performance **C++** WebSocket backend to stream 10+ real-time server metrics to a live web dashboard, applying object-oriented design principles and patterns (e.g. dependency injection) for scalability.
- Implemented 90%+ unit test coverage using GTest and GMock, and streamlined workflow using **Python** scripts.
- Created MCP server using **TypeScript** and **Node** allowing **LLM** clients to interface with 5+ email functionalities.
- Deployed, configured, and debugged bare-metal **Linux Ubuntu** backend servers on client hardware across North America, and resolved various networking issues involving protocols such as **TCP/IP** through command line.

Brave Technology - Vancouver, BC
Firmware Engineer Co-op Sept. 2022 - Dec. 2022

- Developed production-ready **C++** embedded software for dozens of early intervention overdose detection sensors.
- Enhanced **Travis CI/CD pipeline** by configuring clang-tidy code linting and GTest unit testing using **Python** scripts, increasing production code quality and reducing defects by 20%.
- Created custom **C++ software mocks** to simulate device firmware and external library functions for testing, reducing hardware dependency during development and improving test coverage by 30%.

Solidigm - Vancouver, BC
Firmware Engineer Co-op Jan. 2022 - Aug. 2022

- Programmed **C embedded software** for solid state drive (SSD) command functionality and data transport, delivering robust and well-documented code for tens of thousands of devices in production.
- Completed stories, stand-ups, and code reviews using **Agile** software methodology and **Git** version control.
- Executed validation workflows with cross-functional teams for codebase changes, preventing 95% of regressions.

Technical Projects

Song of the Day - Website Link
Personal Project July 2024 - Sept. 2024

- Created a full-stack social media web app that allows dozens of users to share songs they enjoy with others daily.
- Built application from scratch using **TypeScript** and **React** for frontend, and **Node**, **Express**, and **PostgreSQL** for REST API backend, designing features such as daily user posts, comments, profiles, friends, and song search.
- Deployed web-app using **DigitalOcean** cloud server with **Docker** container, and database using **Supabase**.

Wearable Health Monitor - Github Link
University of British Columbia Sept. 2023 - Apr. 2024

- Designed reliable, extensible **Python** firmware for a wrist-wearable device that monitors hospital patient vital signs, interfacing with a Raspberry Pi, 5+ sensors, and implementing wireless communication via **TCP**.
- Engineered **Python** backend to receive and analyze device data, and set up **Flask** REST API for external access.
- Created dynamic dashboard using **JavaScript** and **Vue** to visualize results, receiving positive user feedback.

Languages: C++, C, JavaScript, TypeScript, Java, Python, SQL, HTML, CSS, Verilog, Assembly
Tools/Frameworks: Git, Travis CI, Linux, Docker, MATLAB, Agile, Jira, Node, Express, React, Next, Vue, Tailwind
Interests: Powerlifting, Bouldering, Fashion, Beatmaking, Advent of Code, Geography