# 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

- Enhanced email server software by implementing **C**-based features that interacted with **PostgreSQL** database, network protocols such as **TCP/IP**, and interfaced with **Apache**, **JavaScript**, and **PHP** web interface.
- 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 such as dependency injection for scalability.
- Deployed, configured, and debugged bare-metal **Linux Ubuntu** backend installations on client hardware via command line, ensuring seamless email and spam filter functionality for software serving dozens of ISPs.
- Created **Bash** and **Perl** scripts to automate user and log file analysis, streamlining administrative workflows.

**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 GoogleTest unit testing with **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**.
- **Designed** and **executed tests** utilizing internal tools to successfully verify functionality of changes and prevent 95% of regressions, and collaborated with internal teams while modifying complex legacy codebase.

## 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 and expandable **Python** firmware for wrist-wearable device monitoring hospital patient vital signs, which interfaced with Raspberry Pi, 5+ sensors, and implemented wireless communication using **TCP**.
- Created **Python** backend to receive data from device wirelessly, and set up **Flask** REST API for data access.
- Displayed data in positively-received custom user dashboard frontend built using **JavaScript** and **Vue**.

**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