

David Xiong

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Skills

Languages – Python, C#, C/C++, JavaScript, TypeScript, Java, HTML/CSS, SQL, Rust

Technologies/Frameworks – Git, Bash, Linux, Docker, React, Jenkins, Appvance, Docker

Work Experience

Brock Solutions – Software Engineer

July 2024 - Present

- Full-stack development using C#, React/JS, and SQL on the SmartSort team that builds a real-time baggage handling solution installed at over 100 airports worldwide to optimize baggage sortation accuracy and efficiency
- Implementing features and managing customer-facing web client to enhance user experience and increase consistency
- Creating customizations and add-ons tailored to airline and airport-specific systems improving operational breadth
- Modernizing services through decoupling components and refactoring to improve performance and scalability
- Developing a service that automatically generates various BHS reports based on customer's airport time zone
- Updating domain specific API endpoints to support smooth data retrieval across product components
- Identifying and resolving bugs efficiently to ensure minimum downtime and improve stability

SAP – Software Engineer Intern

September 2022 – April 2023

- Responsible for agile full-stack development using JavaScript on a client-facing file repository team
- Developed feature to generate unique URIs for sharing resources from hosted file repositories ensuring secure file access
- Improved top to bottom test coverage by 30% using Java API automation tests UI automation with Appvance scripting
- Refactored multiple legacy features to improve readability and increase scalability for future use cases

Sierra Wireless (Semtech) – Embedded Software Engineer Intern

January – August 2022

- Responsible for embedded development using C++ and Python in a Linux environment (Ubuntu)
- Improved GNSS test suites, test accuracies, and overall coverage used on positional navigation capable routers by 25%
- Increased communication speed of microcontroller unit GPIO's by over 80x of previous implementations
- Refactored sanity check function for NMEA sentences and checksums enhancing the readability and accuracy

Projects

MultiWordle – React Native/TypeScript

December 2024

- Created a Wordle-inspired app supporting words of length 5-7 using React Native and TypeScript, utilizing Expo for a custom development client application and implementing secure user authentication with Clerk
- Incorporated modern UI patterns including using SVGs, Google Fonts, and dark mode for accessibility and aesthetics
- Integrated Firebase for backend connectivity to store user game data such as games played, streak, and total wins

Keyboard Guidance System – C

April 2024

<https://github.com/dxiong3/Keyboard-Guidance-System>

- Created a piano teaching device powered by a BeagleBone that displays notes on an LED strip corresponding to a key
- Integrated real-time audio generation using ALSA API to play audio through the BeagleBone Zen Cape
- Developed logic to take MIDI input events from piano keyboard continuously and detect if user played the correct note
- Wired LEDs that are controlled through the Programmable Real-time Unit and programmed its behavioural pattern

Education

Simon Fraser University – Vancouver, BC, Canada

Graduation: June 2024

Bachelor of Science, Computer Science