David Xiong

dxiong3.com | dzyxiong12@gmail.com

Skills

Languages – C#, C/C++, JavaScript, TypeScript, HTML/CSS, Python, SQL
Technologies/Tools – Git, Bash, Linux, Docker, React, Jenkins, Appvance

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 100+ airports globally to enhance baggage sortation accuracy and operational efficiency
- Constructed the backend for three customized KPI dashboards by building APIs that retrieved and converted raw database data into airline and airport-specific metrics using customized SQL queries to improve operational visibility
- Developed a configurable report generation service that automatically generates various BHS reports based on customer's airport time zone and requirements, giving statistics and data in a digestible way
- Modernized six legacy services and tools by adopting modern frameworks and practices, decoupling components, and refactoring code to improve performance, security, and scalability
- Optimized and improve efficiency of domain specific API endpoints by updating and consolidating providers, controllers, and coordinators to eliminate redundancy and reduce unnecessary database calls
- Manage the customer-facing web client through bug fixes and features to improve user experience and UI consistency

SAP – *Software Engineer Intern* *September 2022 – April 2023*

- Responsible for full-stack development using JavaScript on a client-facing file repository team using agile
- Developed feature to generate unique URIs for sharing resources from hosted file repositories ensuring secure file access
- Increased test coverage by 30% by implementing Java-based API automation tests and UI automation scripts using Appvance, improving reliability across both backend and frontend systems

Sierra Wireless (Semtech) – *Embedded Software Engineer Intern* *January – August 2022*

- Responsible for embedded development using C++ and Python in a Linux environment (Ubuntu)
- Increased MCU GPIO responsiveness by 80x by rewriting register handling from variable to exec access, reducing latency
- Improved overall test coverage for GNSS test suites and test accuracies for routers by 25% with comprehensive unit tests

Projects

MultiWordle – *React Native/TypeScript*

- Built a Wordle-inspired mobile app using React Native and TypeScript supporting words of length 5-7, used Expo for a simplified cross-platform development process and implemented 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*

- 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

Education

Simon Fraser University – **Bachelor of Science, Computer Science** *June 2024*