

Robert Wang

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SKILLS

Programming Languages	Python, Type/JavaScript, HTML, QML, CSS, SQL, C/C++, OCaml, x86 Assembly
Software & Technologies	React/Native, Redux, Express, NoSQL, Flask, Git, Firebase, Azure, Auth0, MongoDB

EDUCATION

University of Minnesota – *B.S in Computer Science and Minor in Mathematics (GPA: 3.96)* *Expected May 2025*
Relevant Coursework: Software Engineering, Web Development, Data Structures & Algorithms, Program Design, AI/ML

EXPERIENCE

Co-Founder SWE | BiteShare | December 2024 – Present | **React Native, Redux, TypeScript, Express, Firebase**

- Designed and developed a scalable React Native mobile app for local restaurant coupon distribution and redemption
- Built a Firebase-powered backend with Express, integrating authentication, a NoSQL database, and cloud storage
- Architected a Redux state management system, optimizing performance and ensuring Firebase data synchronization
- Spearheaded large-scale codebase organization, implementing clean architecture principles and maintaining a structured, maintainable, and scalable codebase structure

Software Engineer Intern | Danfoss | Summer 2024 | **Qt, QML, JavaScript, C, SQLite, Azure DevOps**

- Developed a full-stack interface and control system application for Danfoss autonomous vehicles, enhancing UX
- Established detailed software requirements and crafted a scalable and organized user interface using QML & JS
- Implemented efficient C algorithms for AV path tracking and data manipulation in complex backend systems
- Collaborated and implemented solutions with a diverse, global team using Agile development methodologies

PROJECTS

Personal Portfolio Website | Used: **ReactJS, JSX, Microsoft Azure, MongoDB, CSS**

- Utilized React to develop highly reusable and responsive web components, enhancing scalability and usability
- Integrated serverless Azure Functions and MongoDB Atlas, enabling real-time data processing and manipulation
- Created a dynamic email contact form, enhancing user engagement and streamlining client communications

Handwritten Math to LaTeX | Used: **Python, PyTorch, NumPy, OpenCV, Scikit-Learn**

- Developed a hybrid model combining a Convolutional Neural Network and ResNet-50 to parse handwritten math
- Utilized computer vision methods for image rectification, edge detection, and normalization to enhance accuracy
- Achieved an impressive accuracy of 87% - 98%, varying with the complexity of the mathematical expressions

SafeRoute | Used: **ReactJS, JSX, Microsoft Azure, MongoDB, CSS**

- Engineered a solution for UMN student safety by providing real-time tracking and crime visualizations on campus
- Leveraged React for an intuitive and responsive SPA and Azure Functions for scalable backend interactions
- Provided accurate location data using the Google Maps API and stored user information using MongoDB.

Microblogging Web App | Used: **ExpressJS, JavaScript, MySQL, Pug, CSS**

- Used the Express framework to manage various server endpoints, ensuring efficient RESTful API interactions
- Maintained an SQL database, leveraging AJAX for seamless data manipulation, enhancing efficiency and control
- Crafted an engaging UI using dynamic Pug templating, and implemented user accounts to provide a more secure and individualized user experience

Community Housing App | Used: **Flask, Python, JavaScript, PostgreSQL, HTML, CSS**

- Worked on a project team to build a housing application for users to easily join groups and manage tasks
- Utilized the Flask framework to manage server endpoints and APIs, ensuring a smooth and bug-free experience
- Integrated Auth0 for secure user account management and log-in, and organized website and user information using a PostgreSQL database

EXTRACURRICULARS

Tech Academy STEM Instructor (May – August 2023), **Muon-to-Electron (Mu2e) Engineer** (January 2022 – March 2023)