Trevor Dang Computer Engineering Student

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TECHNICAL SKILLS

Programming Languages: C, C++, Java, Python, JavaScript, TypeScript, Dart, Verilog, Assembly (x86, ARM)

Technologies: Git, Linux, IntelliJ/Android Studio, PostgreSQL, MongoDB, MySQL, Flutter, AngularJS, Django, Node.js, React.js, Express.js, Bookshelf.js, Jest, AWS

EDUCATION

University of British Columbia **September 2020 - Expected May 2025**

Bachelor of Applied Science, Computer Engineering

Relevant Courses: Algorithms and Data Structures, Software Construction, Digital Design, Microcomputers, Web Development, Operating Systems

TECHNICAL WORK EXPERIENCE

WelTel, (Vancouver, B.C.) **January 2023 – Present**

Full-Stack Developer

- Developed and refactored 35+ new and existing software systems/components for a healthcare web application utilizing Angular (TypeScript), HTML/CSS, NG-ZORRO for the front-end features and Node.js and Bookshelf.js for the backend features
- Utilized a Model View Controller Service (MVCS) architecture to create RESTful APIs using controllers to manage communication between front-end and backend services
- Implemented new fields for data models with relational database mapping to store thousands of patients' personal information for healthcare workers to provide correct diagnoses and treatment
- Conducted user acceptance testing (UAT), end-to-end (E2E) testing, and unit testing across a large platform using Jest test suites while following agile workflow using JIRA

Promag Enviro Systems, (Langley, B.C.) **May 2022 – August 2022**

Software Developer

- Developed an interactive water monitoring app that interacts with hardware utilizing Flutter for front-end features, Django and PostgreSQL for backend features, and Python and Single Board Computer (SBC) for IoT features
- Implemented RESTful APIs in Django to communicate with SBC's database through AWS IoT Core using MQTT to increase data transfer frequency from 10 minutes to 5 seconds
- Created a secure provisioning script in Python that utilizes AWS IoT Core and Things to provide personalized SBC configurations
- Constructed SBC Bluetooth commands to receive Bluetooth request from mobile devices so an SBC can be self-registered to a user account to provide device ownership

TECHNICAL PROJECTS

Chat App | GitHub **|** *HTML, CSS, JavaScript, Node.js, Express.js, MongoDB* **September 2022 – December 2022**

- Designed a chatting web app using HTML, CSS, and JavaScript that utilized a Model-View-Control (MVC) design pattern
- Created additional web socket features using XML Http Request API and Express.js to allow data exchanging between client and server via AJAX requests to update chatrooms and conversation histories
- Implemented REST endpoints using Promises to read and post data (chatrooms, conversations, and user login data) to and from database using MongoDB
- Added authentication mechanism to allow users to login and have their own server resources protected by a session manager that allocates unique session cookies
- Developed simple sanitization protection against cross-site scripting (XSS) attacks to disable forwarding of dirty messages to other users and database

Home Security System App | GitHub **|** *React.js, Raspberry Pi* **March 2022 – May 2022**

- Designed a UI in ReactJS for users to monitor their home from afar using lighting, distance, and pressure data to detect intruders
- Created APIs in React.js using JavaScript's built-in fetch API to collect data from hardware (sonar sensor, photocell, and pressure sensor) through HTTP pipelines to efficiently poll data as close to real-time for users
- Generated an algorithm to send custom email notifications to users when sensors behaved in an unusual manner by the front-end communicating with Raspberry Pi and backend via HTTP requests
- Implemented home security system into a mini house to simulate and test the design of our hardware and app