Trevor Dang Computer Engineering Student

trevor.dang14@gmail.com | 604-657-9007

TECHNICAL SKILLS

Programming Languages	Java, Python, C, C++, Dart, JavaScript, Verilog, Assembly (x86, ARM)
Software	Git, Linux, IntelliJ/Android Studio

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

TECHNICAL WORK EXPERIENCE

Promag Enviro Systems, (Langley, B.C.) **May 2022 – August 2022**
Full-Stack Developer

- Worked with a Single Board Computer (SBC) that interacts with hardware to monitor water data using Python
- Designed an interactive UI/UX for customers to monitor water data from SBC via HTTP and Bluetooth using Flutter
- Implemented API endpoints in Django to communicate with SBC's PostgreSQL database through AWS IoT Core using MQTT to increase the data transfer frequency from 10 minutes to 5 seconds
- Created a secure provisioning script in Python that creates a Thing on AWS IoT Core with a shadow document containing SBC's configuration settings
- Constructed an SBC Bluetooth command to receive a registration Bluetooth request from the frontend so that an SBC can be registered to a user account to provide device ownership

TECHNICAL PROJECTS

Home Security System App, (UBC) **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 API endpoints in NodeJS to collect data from the hardware (sonar sensor, photocell, and pressure sensor) which is fetched by the frontend via GET request to efficiently poll data as close to real-time for users
- Generated an algorithm to send a custom email notification to users when one of the sensors behaved in an unusual manner by sending a POST request to the backend
- Implemented the home security system into a mini house to simulate and test the design of our hardware and app

Dancing Entertainment Robot, (UBC) **February 2022 – March 2022**

- Created a dancing robot out of 3D printed parts controlled by servos and an ItsyBitsy M4 Express microcontroller
- Designed six dance sequences in Python using the adafruit motor library to control the angle of the servos to generate the dance moves in an algorithmic manner
- Attached and generated images on a liquid crystal display (LCD) onto the robot associated with each dance move
- Implemented an algorithm for the robot so it could dance and play music using a piezo buzzer simultaneously giving the robot additional entertainment effects

OTHER WORK EXPERIENCE

UBC Geering Up, (Vancouver, B.C.) **August 2019 – September 2019**
Junior Instructor

- Supervised and interacted with campers during physical and problem-solving activities
- Encouraged all campers to cooperate with one another and solve problems in groups, improving their ability to work together and critically analyze problems
- Coordinated with peers to plan activities that campers would enjoy, enhancing their overall experience at UBC Geering Up