

Isabelle André | Electrical Engineering Student

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WORK EXPERIENCE

Automation Engineer — Apple

JAN 2022 - APR 2022, VANCOUVER, BC

- Developed an automation framework to process output data from a variety of testers to a database, saving engineers hours of work
- Parsed scrambled csv and html data to a readable and visualizable format for engineers to efficiently conduct diagnostics
- Created new automation tools to reduce manual steps and errors and streamline compliance results across several product lines

Software Integration Engineer — Tesla

SEP 2021 - DEC 2021, PALO ALTO, CA

- Supported the air suspension system SIL test infrastructure in the Chassis Control Integration Team
- Developed unit tests for air suspension firmware and validated vehicle platform firmware releases in SIL infrastructure
- Lead the bring up and firmware integration of the Semi HIL tester infrastructure

Research Assistant — UBC Robotics & Controls Lab

DEC 2020 - DEC 2021, VANCOUVER, BC

- Automated robotic arms with a hierarchical state machine running a pick-place task to coordinate the arms in an efficient manner
- Implemented a decentralized motion planning framework for the collision avoidance of arms in a dynamic surgical environment
- Developed a task planning software for trilateral tasks using da Vinci Research Kit robotic surgery platform, ROS, and V-REP simulator

ENGINEERING DESIGN TEAMS

UBC Unmanned Aircraft Systems — Systems Engineer

- Developed the firmware and communication layer between Odroid, PWM, and brushed drivers to control the motor system of the aircraft
- Integrated PID feedback control to drive the encoded mecanum system
- Integrated remote control capabilities to control the claw and winch
- Developed a real-time QR scanning Python program using OpenCV to display location data on screen using an FPV camera system

UBC Launchpad — Software Engineer

- Developed an iOS mobile application to track and classify a group's expenses with notifications using Swift, Node.js, and MySQL
- Built application infrastructure and backend API, and containerized the backend with a MySQL database using Docker

UBC Rapid CAD and 3D Printing — Co-Captain

- Managed a team of 20+ students contributing to our Consulting, 3D printing, and 3D printer construction and maintenance subteams
- Lead the design and construction of a new compact and portable 3D printer including CAD design, firmware, and electronic parts

EDUCATION

University of British Columbia

SEPTEMBER 2018 - MAY 2023

4th Year Electrical Engineering
Vancouver, BC, Canada

Language Skills

Verbal/Written: French, English
Conversational: Japanese

TECHNICAL SKILLS

Languages

Python, C++, C, Rust, Verilog, Assembly,
Javascript, Matlab, Lua, Bash

Frameworks

Node.js, React, Angular, Loopback, Ionic
Other

Git, ROS, CAN, I2C, V-REP, SQL, Simulink,
Solidworks, Docker, FPGA, Quartus,
Modelsim, Linux

PROJECTS

Motion Planning and Velocity Collision Avoidance Framework

PYTHON, ROS, V-REP

Developed a task and motion planning framework to compute collision avoiding velocities such that each robot may avoid collisions without changing their initial trajectory

Metal Collecting Autonomous Robot

C, MAKEFILES, EFM8, STM32F051, NRF24
TRANSCEIVER, BO230XS USB SERIAL

Designed and programmed a metal detecting robot collecting metallic objects automatically, restricted within a 0.5 m² perimeter wire, or manually using a controller

FPGA MP3 Player

VERILOG, ASSEMBLY, MODELISM, QUARTUS,
DE1 SOC

Programmed a simple Ipod using FSMs to read sound samples from flash memory and writing to a D/A converter while interfacing with a keyboard