Isabelle André | Electrical Engineering Student

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WORK EXPERIENCE

Software Integration Engineer — *Tesla*

SEPTEMBER 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

Associate Software Developer — *Teradici*

MAY 2020 - DEC 2020, VANCOUVER, BC

- Improved the automation infrastructure by developing new tools to reduce manual steps and errors using the Jira API to automate builds and version tagging, saving engineers hours of work
- Expanded and improved the build system required to generate a PCoIP Client for Windows, Mac, Linux, and mobile platforms

ENGINEERING DESIGN TEAMS

UBC Unmanned Aircraft Systems — *Systems Software Engineer*

- Developed real-time QR scanning Python program using OpenCV to display location data on screen
- Soldered and tested the rover's FPV camera system
- Created API endpoints processing other aircrafts' telemetry at intervals from an interoperability server to avoid collisions

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
- Created an Activity feed in Swift to display most recent payments and transfers and developed a group expense splitting feature

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 - APRIL 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, Loopback, Angular, Ionic

Other

Git, ROS, CAN, 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 m^2 perimeter wire, or manually using a controller

FPGA MP3 Player

VERILOG, ASSEMBLY, MODELSIM, 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