Jaiden Alessio (They/Them)

Education – Northeastern University – May 2023 – 3.65 GPA

CANDIDATE FOR BACHELOR OF SCIENCE IN COMPUTER ENGINEERING & COMPUTER SCIENCE

- Coursework: Digital Design ~ Electronics ~ Networks ~ Computer Systems ~ Algorithms & Data ~ Logic & Computation ~ Discrete Structures ~ Differential Equations & Linear Algebra
- Activities: AerospaceNU; NU Symphony Orchestra; NU SEDS (Mars Rover and Mars Ice); Collegiate CS:GO

Skills/Technologies

- C/C++, QtCore, QML, Python
- Embedded Linux (Ubuntu, Yocto)
- SPI, I2C, CANOpen, Modbus
- Microcontrollers (STM32)
- PCB Design (Eagle, Altium)
- Soldering (THO, SMT)
- Multimeter, variable PSU, oscilloscope, function generator
- CAD (Solidworks, OnShape)

Co-op Experience

EMBEDDED SOFTWARE ENGINEERING CO-OP| FORMLABS | SEPTEMBER 2022 – DECEMBER 20222

- Enabled automatic and user triggered updates of in-development 3D printer peripheral device by writing a Python update script, QML code, and C++ code to link it together.
- Worked with design team to create a printer-side UI for peripheral product with user commands and state tracking.
- Investigated and remedied bugs alongside non-technical colleagues, including issues with print time estimation and aborting procedure.

COMPUTER ENGINEERING CO-OP| MICRO-LEADS MEDICAL | MAY 2022 – AUGUST 2022

- Communicated with vendors to source components for prototype implant charger.
- Designed new iteration of circuit boards for testing new pulse generator hardware.
- Performed verification and validation procedures on medical device prototypes, communicated performance issues, and collaborated to improve testing procedures.

ELECTRICAL ENGINEERING CO-OP| FESTO | JULY 2021 – DECEMBER 2021

- Prototyped PCB for a low-cost, open-loop, pipette, designed to fit in a 9mm Pitch.
- Developed drivers for Modbus devices in Java and C# for an open-source software initiative.
- Contributed bug fixes and features to a liquid-handler software project including H-Bridge gantry support, closed loop control, axis factory class, brake and e-stop status support, & TMCM-1241 driver.
- Wrote test scripts for liquid handling system and demo scripts for trade shows using Python.

Project Experience - [🌐]: Project details (and full portfolio) at jalessio.info

PROJECT LEAD/AVIONICS ENGINEER | AEROSPACENU | FALL 2019 - CURRENT

- Led an avionics mentorship program teaching new members embedded software and PCB design.
    - Conduct workshops and labs, create presentations and guides, and give lectures.
- Designed and built multicell LiPo battery charging and management PCBs. [🌐]
- Wrote SPI/I2C drivers in C++ for IMU and high-g accelerometer in use on flight control boards. [🌐]

PERSONAL

- Designed and assembled an electric violin with a combination of 3D printed and off-the-shelf parts. [🌐]
- Modeled, simulated, built, and flew a high-power model rocket and received L1 certification. [🌐]