Luca Jones

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Education

BASc, Engineering Physics, University of British Columbia | GPA: 92% **(September 2023 - present)**

Skills

- Electronics — Altium Designer, KiCAD, Circuit Analysis, Prototyping
- Mechanical Design — 3D CAD, Onshape, Machining, Lathing, Milling, Water Jet Cutting
- Embedded Systems — Linux, NVIDIA Jetson Platforms, FreeRTOS, ESP32, Raspberry Pi
- Programming Languages — C, C++, C#, Python, Java, Matlab, Bash scripting
- Programming Tools — Make, CMake, Git, Azure DevOps, Docker

Work Experience

UBC Bionics Design Team - Electrical Sub-Team Lead **(January 2025 - present)**

- Collaborating with a large team of engineering students to design a semi-autonomous prosthetic arm to compete at Cybathlon, the largest assistive technology competition in the world.
- Leading the electrical sub-team to ensure seamless integration of the final product.
- Designing a carrier board PCB to integrate all of the electronic components of the arm.

Engineering Intern at Reach Technologies Inc. **(May - Aug 2024)**

- Developed imaging software and wrote documentation for a short wave infrared (SWIR) image sensor, enabling the successful alignment of a custom Bayer filter on the sensor.
- Identified and resolved a critical bug in the sensor's driver, eliminating the severe artifacts ruining the quality of the frames of the video stream.
- Designed an H-bridge PCB to drive a Peltier cooler using PWM control.
- Programmed an ARM microcontroller in C to control the SWIR sensor's temperature through the Peltier cooler, reducing thermally induced noise and increasing the image quality.
- Implemented a gRPC service between the camera streaming software in C++ and an image processing program written in C# to integrate the sensor into the existing system.

UBC Bionics Design Team - Data Analytics Sub-Team **(January 2024 - January 2025)**

- Compiled and annotated a dataset of hundreds of images of the objects used in the competition to train the machine learning model.
- Trained a computer vision model using the Yolo V8 framework to assign grip types to objects.

Projects

Autonomous Robot Competition **(July - Aug 2025)**

- Designed a fully autonomous robot within a small team to navigate a course and retrieve stuffed animals.
- Drafted components using CAD software and built the robot with a variety of materials and techniques.
- Designed circuits and PCB layouts to control sensors and actuators such as the arm or LIDAR sensors.
- Wrote concurrent FreeRTOS software for the ESP32 microcontroller to control the autonomous robot.

Achievements

- Ranked in the top 20% in the William Lowell Putnam Mathematical Competition, the most prestigious undergraduate math contest in the world.
- Awarded the Thomas Beeching Scholarship for top students in the Faculty of Applied Science at UBC.
- Received the UBC Canadian Open Math Competition Scholarship Award.