

# BRAEDEN JURY

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## EDUCATION

**University of British Columbia** – Engineering Physics [GPA: 90.1%, 3.93/4.00] – Dean's Honour List 2016-2019

## TECHNICAL SKILLS

SOFTWARE	MECHANICAL	ELECTRICAL	ADMINISTRATIVE
<ul style="list-style-type: none"><li>Python, C/C++, C#, Java, JavaScript (Node.js), SQL, HTML/CSS</li><li>Computer Vision, Object Tracking</li></ul>	<ul style="list-style-type: none"><li>CAD – SolidWorks, OnShape</li><li>Training – Lathe, Milling, Laser Cutter, 3D Printer</li></ul>	<ul style="list-style-type: none"><li>Circuit Design – Altium, VHDL</li><li>Soldering, PCB Manufacturing</li></ul>	<ul style="list-style-type: none"><li>Timeline Organization (Meetings, Tasks, Deadlines)</li><li>Technical Instruction (Peers &amp; Students)</li></ul>

## TECHNICAL EXPERIENCE

### UBC Centre for Brain Health – Software and Hardware Developer

May 2019- Present

- Designed, built, and tested a complete system for multiple-mouse position tracking using computer vision and RFID tag readers – the system produces 80%+ coverage of mouse positions with 100% accuracy.
- Upgraded, revised, and maintained architecture for automated mouse brain imaging trials, integrating the system with a MySQL database and refactoring the structure for a more modular and flexible approach.

### BEAR (Bionics Engineering Analysis and Research) UBC – Electrical/Software Lead

August 2018 - Present

- Managed the development of circuitry and software for a myoelectric bionic arm, for competition at ETH Zurich's Cybathlon 2020. Personally wrote C++/Python software and developed PCB layouts for power management and sensor processing systems with Altium Designer.
- Planned budgeting, scheduling, and overall project scope to ensure device completion to safety standards.

### Control Inc. – Junior Software Developer

January 2018 – May 2018

- Refactored old features and designed new features using Vue for JavaScript, fixing or adding thousands of lines of code, all subject to detailed code review and testing procedures.
- Implemented hundreds of new unit tests, increasing coverage from 40% to 70%.

### UBC Thunderbots – Electrical Team

September 2016 – September 2018

- Using MATLAB, designed a specific motor model for use in the robot simulation software.

## TECHNICAL PROJECTS

### ORDER 66 – UBC ENGINEERING PHYSICS ROBOT COMPETITION

- Within a 4-student team, created a two-robot system capable of autonomously navigating a complex surface, crossing multiple gaps, retrieving small objects, and returning them via a zip line and scissor lift.
- Was personally responsible for the mechanical design of the upper robot, the software architecture in C++, and the retrieval mechanism design, from the initial conceptual stage to the final prototype.

## PERSONAL PROJECTS

### CookbookToGrocery (C++/Python)

- Transforms photos of recipes into a shopping cart at your online grocery store, utilizing OCR and Natural Language Processing. Currently in progress!

### PoppyWatch (JavaScript)

- A self-monitoring system for first responders suffering from PTSD, using the FitBit Ionic to track attacks, and record data and reflections on the experience in a web portal - developed at LumoHacks 2018.