

# Jayson Chaykowski

## Bachelor of Engineering

Email: jay.jay0088@gmail.com

Phone:

Hamilton - Ontario - L0R 1P0

---

## HIGHLIGHTS OF QUALIFICATIONS

- Designed and fabricated custom instrumentation and devices to support a range of undergraduate, and graduate laboratories, and experimental projects.
- Provided oversight and management of electronics, optics, solar cell, and nuclear laboratories, including the modernization of existing labs, development of new undergraduate experiments, and creation of standardized procedures.
- Proficient in operating, maintaining, and repairing a wide range of agricultural machinery to support all phases of crop production while ensuring safety and efficiency in farm operations.

## EXPERIENCE

---

### Farmhand | September 2023 – Current

*Metro Farms, Hamilton, ON*

- Operate diverse machinery including tractors, skid steers, and sprayers to perform essential field operations safely.
- Performed all stages of crop cultivation including ground tilling, planting, pesticide application and harvesting of crops.
- Maintained and repaired farm equipment by conducting preventative maintenance, troubleshooting mechanical issues, and performing necessary repairs to ensure operational readiness and minimize downtime.
- Ensured efficient and safe farm operations through the diligent operation of farm equipment, adherence to safety protocols, and proactive maintenance of all machinery and implements.

### Instructional Assistant | JAN 2023 – AUG 2023

*McMaster University, Hamilton, ON*

- Developed, setup, and facilitated undergraduate practical laboratories.
- Led weekly classroom and tutorial sessions of 30 students supplementing the theory learned in lectures.
- Managed and maintained a Class 10000 cleanroom, ensuring proper oversight, facilitation, and functionality of associated equipment.
- Diagnosed and resolved technical issues related to laboratory operations, and department-owned equipment (including 3D printers, laser cutters, computer servers).

### Lab Assistant | SEP 2018- DEC 2019

*McMaster University, Hamilton, ON*

- Designed and fabricated modular devices for monitoring the movement of blue-tooth tags through a house.
- Programmed extensively in Arduino for use in the modular devices.
- Utilized raspberry-pi and other Linux platforms for networking of each modular device.
- Attended lab meetings and made progress report presentations.
- Researched suppliers and purchased necessary supplies.

## EDUCATION

---

### Master of Applied Science (Incomplete) |

Engineering Physics |

MAY 2020 - AUG 2023

*McMaster University, Hamilton, ON*

*Single Pass SPDC in nonlinear material PPLN*

---

### Bachelor of Engineering |

Engineering Physics |

SEPT 2012 - APR 2020

*McMaster University, Hamilton, ON*

## PUBLICATIONS

---

A. Naber, J. Chaykowski, J. Jimmy, and W. Nahm, "Diffuse reflectance Monte Carlo simulation to assess the transit time error in intraoperative fluorescence angiography," pp. 40–40, Apr. 2020, doi: <https://doi.org/10.1117/12.2555430>.

## SKILLS

---

Coding: C++, Python, Latex, MATLAB

Computer: Microsoft Office Suite, Linux (Ubuntu, Debian), Mac OS, Windows OS

Electronics: Soldering, PCB Design, Circuit design and debugging

General: Heavy equipment operation, Mig welding

## PROJECTS

---

### PCB Design

- Designed and developed a PCB for a robotic system, including control of robotic arms, LiDAR, and motion control.
- Led circuit design, PCB layout, and component soldering for the project.
- Developed and soldered a PCB for a plant monitoring system, tracking humidity, temperature, light, and moisture levels.
- Integrated the plant monitoring system to upload collected data to a web server.

### Laboratory Design

- Developed a practical learning experience to demonstrate real-world applications of classroom theory.
- Purchased and organized equipment to support the learning activities.
- Created a detailed manual for students to guide them through the practical exercises.

### Design Fabrication and Development

- Designed and modeled a 3D-printed case for a networked scoreboard system running on a Raspberry Pi to track hockey game scores.
- Maintained and updated the script interfacing with the NHL API, including library updates and writing unit tests.
- Managed a Raspberry Pi server for scoreboard functionality and generated 3D print design files for the case.

## VOLUNTEER

---

### FRC Mentor | 2017 – 2019

#### *Software and Build Mentor FRC team 6878*

- Mentored a student-led high school robotics team competing in FIRST Canada, providing guidance in robot building, design iteration, and programming.
- Supported students in modeling the robot design to meet the objectives of the annual competition game.
- Assisted with the fabrication of custom parts and development of software and control systems, while encouraging team leadership and collaboration.
- Traveled with the team to various competitions, offering technical support and mentorship.

**References available upon request**