

# Duncan McRae

613-330-3436 | smcra022@uottawa.ca | stephendmcræe.com | Ottawa, ON

## SUMMARY

---

CO-OP student enrolled in Physics and Electrical Engineering, specializing in communications engineering. Well experienced in agriculture and construction, curating an affinity for problem solving and a solid work ethic. Adept in electro-mechanical systems through CO-OP experience and project work. Comfortable in Linux environments, and proficient in Python, C and MATLAB.

## EDUCATION

---

### University of Ottawa

Ottawa, ON

BASc. Electrical Engineering & BSc. Honours Physics, Specialization in Communications

2021 – 2027

- **Key Coursework:** Digital Signal Processing, Communication Systems, Wireless Communication Fundamentals, Electromagnetic Engineering, Solid State Physics.
- **Academic Standing:** 7.57/10 CGPA - 3.03/4 GPA.

## EXPERIENCE

---

### BluMetric Environmental Inc.

Jan. 2025 – Aug. 2025

Shop Technician (CO-OP)

Carp, ON

- Diagnosed and serviced electro-mechanical systems within technical team.
- Authored procedures for assembly and maintenance of systems, improving future efficiency.
- Executed hardware troubleshooting and repair.

### Charlottengro Farms Inc.

2020 – 2023

Farm Hand

Williamstown, ON

- Maintained and operated heavy agricultural machinery.
- Performed manual-labour tasks with attention to detail.
- Autonomously performed tasks in distant locations without supervision.

## PROJECTS

---

### UAV Targeting System (Capstone)

Sept. 2025 – Present

- Developing a real-time identification device using AI and Voxel movement tracking.
- Utilizing a Raspberry Pi for computational tasks and hardware-software integration.

### Home Server

Sept. 2025 – Present

- Repurposed old laptop to serve as Ubuntu Linux server.
- Set server as exit-node for personal devices.
- Use Pi-hole and Unbound to serve DNS requests.

### Physics Research: IB Mobility in Solar Cells

Sept. 2025 – Present

- Researching Intermediate Band (IB) mobility effects on the efficiency of solar cells for practical implementation.
- Conducting study under faculty supervision at the University of Ottawa.

## SKILLS

---

### Software

Python  
C programming  
Linux  
Microsoft Office

### Hardware

Embedded systems  
3-PH Motors  
RF systems  
Electro-mechanical

### Tools

Multisim  
Git / Github  
Multimeter, Oscilloscope  
Hand tools

### Soft

Teamwork  
Oral Communication  
Autonomy  
Tenacity