

# Matthew Salazar

✉ msalaz03@uoguelph.ca    📍 Barrie, Ontario    🔄 msalaz03    in matthew-salazar-lavarreda    📁 portfolio/matthew-salazar

## 🎓 EDUCATION

### Bachelor of Engineering: Computer Engineering (Co-op)

University of Guelph

09/2022 – Present

Guelph ON, Canada

- **Relevant Coursework:** Data Structures, Digital Systems Design.

## 🛠 SKILLS

### Languages

C/C++, Java, Python, VHDL, HTML, CSS, MATLAB

### Developer Tools

Git, GitHub, Visual Studio Code

### Operating Systems

Windows, MacOS, Linux

### Computer-Aided Design (CAD)

SolidWorks, AutoCad, KiCad, Fritzing

## 📁 PROJECTS

### WIRELESS ROBOTIC HAND [🔗](#)

05/2023 – 09/2023

Arduino, C++, SolidWorks, Fritzing

- Designed a 3D-printed robotic hand in **SolidWorks**, enabling dynamic gesture replication.
- Established wireless communication between Arduino Nano's with NRF24L01 transceiver modules.
- Implemented data transmission and servo control through **C++** microcontroller programming.
- Featured on the **University of Guelph's College of Engineering & Physical Sciences** website [🔗](#).

### FILE PROCESSING SYSTEM [🔗](#)

01/2023 – 05/2023

Java, Object-Oriented Design, API, Git

- Created a **JSON**-based file processing system, which took in defined processing elements with local or remote operations.
- Extracted file content and size, then filtered files based on specified conditions.
- Integrated **Laserfiche API** for remote directory access.

### ALARMBOT [🔗](#)

06/2023 – 08/2023

Python, API, Git

- Created an alarm bot using **Discord's API** and **asyncio** library for timely notifications
- Provided personal notifications for exams and tests, with a custom message specified by the user.

### CRYPTOMAGIC [🔗](#)

11/2022 – 12/2022

C, Algorithm Design, Git,

- Developed a file encryption tool with a custom encryption method.
- Supported both **encryption** and **decryption** of files through command-line arguments for file path and operation selection.
- Achieved secure data transformation with user-defined encryption logic.

## 🏢 EXPERIENCE

### Electrical Team Member

09/2022 – Present

University of Guelph Robotics

Guelph ON, Canada

- Utilizing **KiCad** to implement a PCB breakout for the GPIO Expansion Connector on the **Rudi-NX**, sorting all required connections together.
- Ensuring proper routing to minimize interference and maximize reliability.
- Conducting extensive research on the **RS485** communication protocol.

### Summer Student

05/2023 – 09/2023

Utilicon Engineered Precast Structures

Bradford ON, Canada

- Prepared moulds for concrete pouring by creating rebar foundation, cleaning and oiling.
- Achieved a smooth finish to the product by vibrating and floating the concrete
- Performed general maintenance duties.

## 🏠 COMMUNITY INVOLVEMENT

### Big Buddy

09/2023

University of Guelph Engineering Society

Guelph ON, Canada

- Provided guidance and mentorship to incoming computer engineering students, by sharing personal experiences and facilitating open discussions.
- Created a supportive environment where engineers could connect and build relationships through various activities.