

Sina Forouzanfar

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EDUCATION

McMaster University

BEng in Mechatronics & Biomedical Engineering | GPA: 3.94

2023 – 2027

Hamilton, ON

EXPERIENCE

Electrical Engineering Lead

Arche Biotechnologies

May 2024 – Dec 2024

Hamilton, ON

- Designed system schematics in **KiCad** and built preliminary hardware prototypes for a biomedical monitoring device.
- Interfaced **Arduino Nano** with **AS72651 sensors** and **WC1602A LCDs** for real-time data acquisition.
- Verified **UART communication** protocols and validated data transmission accuracy using **oscilloscopes**.

Software Engineering Intern

Data Stealth

Jun 2025 – Aug 2025

Mississauga, ON

- Built the production website and interactive demos showcasing enterprise data masking and tokenization workflows.
- Contributed to backend system design by defining data flow and component interactions across the product pipeline.

Product Engineer

Data Stealth

Sep 2025 – Present

Mississauga, ON

- Retained **part-time** (15 hrs/week) during academic term to architect a new product using **format-preserving encryption**.
- Optimizing system logic to maximize data utility while strictly **reducing processing latency** in high-throughput streams.

IEEE Student Branch Co-Chair

McMaster University

Jun 2024 – Present

Hamilton, ON

- Overseeing operations of technical sub-chapters, coordinating team leads, and managing resource allocation for the branch.
- Organizing and instructing technical workshops on **CAD, Raspberry Pi, and Signal Processing** for **30+ students**.

PROJECTS

Mac Bionic Arm | Embedded Technical Lead

STM32, Arduino, C++, Computer Vision

Sep 2025 – Present

- Leading a team of 5 to develop firmware, migrating from **Arduino** prototypes to **STM32** to implement precise **PID control**.
- Implementing **computer vision** algorithms to enable the arm to identify targets and execute **detect-and-grasp** sequences.

HackMe | Winner - McMaster Engineering Competition

Python, React, Network Protocols

Nov 2024

- Secured **1st Place** out of 500+ participants by developing a B2B cybersecurity tool to automate vulnerability scanning.
- Selected to represent McMaster University at the provincial **Ontario Engineering Competition** (OEC).

Pacemaker Control System | Software Development Project

STM32, Python, Simulink, UART

Oct 2024 – Dec 2024

- Designed safety-critical firmware on **STM32**, utilizing **Simulink** to model and validate **finite state machines** for pacing logic.
- Developed the **UART communication** interface between the embedded system and a **Python DCM** for real-time configuration.

TECHNICAL SKILLS

Languages: C, C++, Python, MATLAB, JavaScript, SQL, Bash, Rust, FastAPI.

Embedded & Hardware: STM32, Arduino, Raspberry Pi, KiCad, UART, Oscilloscopes, Sensors.

Dev Tools & Frameworks: Git, Docker, React, TensorFlow, OpenCV, Simulink, AWS, Autodesk Inventor.