

# Shivom Sharma

shivom.sharma.eng@gmail.com | shivom.dev | linkedin.com/in/shivomsharma | github.com/RealShivomSharma

## EDUCATION

### McMaster University

*Bachelor's in Mechatronics Engineering and Management (Co-op)*

Hamilton, ON

*Expected 2026*

## EXPERIENCE

### McMaster University

*Undergraduate Researcher*

March 2025 – Present

*Hamilton, ON*

- Implementing open-source Fast Multipole Methods in Python/C++/CUDA in computer-graphics research

### Tesla

*Incoming Software Engineer Intern*

May 2025 – August 2025

*Austin, TX*

- Integrated Factory Design and Mobile Robotics

### Tesla

*Software Engineer Intern*

June 2024 – August 2024

*Austin, TX*

- Spearheaded a comprehensive overhaul of the Factory Layout Graph ETL Pipeline and APIs using **Airflow** and **Pandas**, achieving a **92% reduction in processing time** and **cutting end-user load times by 5 minutes**
- **Improved deployment efficiency by 15%** through strategic refactoring of CI/CD pipelines using **Docker**, **Kubernetes**, and **GitHub Actions**
- Enhanced data accessibility by compressing models for **Amazon S3** and migrating data to **SQL Server**, **PostgreSQL**, and **MySQL** databases, resulting in an **18% reduction in data retrieval times**
- Developed scalable **Python** backend services using **Redis**, **Celery**, and **GraphQL** to deliver crucial material flow routing information to cross-functional stakeholders

### Tesla

*Manufacturing Controls Development Engineer Intern*

September 2023 – May 2024

*Austin, TX*

- Developed a computer vision algorithm for Cybertruck rotor inspection using **Python** and **Halcon**, achieving **98% accuracy** and **22 ms processing time per part**, automating QC on **7,000 parts weekly**
- Collaborated with manufacturing engineers to optimize hardware and software requirements, **saving \$10,000** through strategic component selection and engineering design
- Engineered **PLC** function blocks for safety and performance, **reducing overall cycle times by 30%**

## PROJECTS

### Boox-CLI | Go, Bash, Docker, REST API

- Crafted a high-performance Go CLI tool using MangaDex API and Library Genesis to upload textbooks and manga to my e-ink tablet, achieving 50MB/s transfer speeds

### Stepper-Motor ASIP | C++, Verilog, FPGA, DE1-SoC

- Designed and implemented a custom processor with 13 instructions for precision stepper motor control

### HFT Simulator | C++, Sockets, Networking

- Implemented trading simulator to process market data feeds and simulate order book dynamics

## SKILLS

**Languages:** Python, C, C++, Go, Java, Javascript, Typescript, SQL, Verilog, HTML, CSS

**Libraries/Frameworks:** Flask, React, FastAPI, Django, Node, REST, HTTP, Pytorch, Numpy, Pandas, Matplotlib

**Developer Tools:** AWS, Git, Docker, Kubernetes, Kafka, Heroku, Linux/Unix, Redis, Airflow

**Concepts:** Machine Learning, Distributed Systems, Algorithms, Data Structures, Object Oriented Design, Backend, Full Stack, Embedded Systems (STM32), Operating Systems, FPGA (DE1-SoC), PLC, Cloud Computing, Agile, Scrum, Databases, Networking