Shivom Sharma

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

Education

McMaster University Hamilton, ON
Bachelor of Engineering in Mechatronics Engineering and Management (Co-op) *Expected 2026*

Experience

McMaster University Mar 2025 - Present
Undergraduate Research Assistant *Hamilton, ON*

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

Tesla May 2025 - Aug 2025
Incoming Software Engineer Intern *Austin, TX*

Tesla Jun 2024 - Aug 2024
Software Engineer Intern *Austin, TX*

- Spearheaded a comprehensive rewrite of the Factory-layout Graph ETL pipeline and APIs using Airflow and Pandas, achieving a 97% reduction in processing time, significantly reducing end-user load times
- Designed and implemented scalable backend Python services utilizing Redis caching, Celery task queues, and GraphQL, to deliver crucial material flow routing information to cross-functional stakeholders
- Refactored CI/CD pipelines with Docker, Kubernetes and GitHub Actions, boosting deployment efficiency and minimizing production downtime across critical manufacturing systems by 15%
- Enhanced data accessibility through strategic model compression for Amazon S3 and orchestrated data migrations to SQL Server, PostgreSQL and MySQL databases

Tesla Sep 2023 - May 2024
Manufacturing Controls Development Engineer Intern *Austin, TX*

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

Projects

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

- Crafted high-performance Go CLI tool using MangaDex API and Library Genesis to upload textbooks 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*

- Engineered a trading simulator to process market data feeds and simulate order book dynamics with backtesting

Skills

Languages: Python, C, C++, Go, Java, Javascript, Typescript, SQL, HTML, CSS
Libraries/Frameworks: Flask, React, FastAPI, Django, Node, REST, HTTP, Pytorch, Numpy, Pandas, Matplotlib
Developer Tools: AWS, Git, Docker, Kafka, Kubernetes, Heroku, Linux/Unix, Redis, Airflow
Concepts: Machine Learning, Distributed Systems, Algorithms, Data Structures, Object Oriented Programming, Backend, Full Stack, Embedded Systems (STM32), Operating Systems, FPGA (DE1-SoC), PLC, Cloud Computing, Agile, Scrum, Databases