MINHAZUR RAKIN

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EDUCATION

McMaster University — Hamilton, Ontario
Bachelors of Computer Engineering; GPA: 3.8/4.0 — *Sep. 2023 – Apr. 2027*
Relevant Courses: Data Structures & Algorithms, OOP, Principles of Programming, Linear Algebra

EXPERIENCE

Software Engineering Intern — Sep. 2025 – Present
Ericsson — *Ottawa, Ontario*
- Developed and deployed a distributed OpenTelemetry pipeline consuming **Kafka** streams and exporting data to VictoriaMetrics, **OpenSearch**, and **PostgreSQL**, improving data polling rates from **15 min** to under **3 min**
- Built internal observability dashboards using **AngularJS** enabling real-time visualization and improving fault analysis speed by **30%** for the **Cloud RAN** team
- Developed CI/CD pipelines in **Jenkins** and **Spinnaker** to build, validate, and deploy CSAR packages, improving release efficiency by **15%**

Embedded Systems Intern — May. 2025 – Aug. 2025
Taylor Systems (Startup developing smart-home IoT solutions for a residential village) — *Mississauga, Ontario*
- Built firmware to control 12+ industrial devices via Modbus RTU over RS-485, extending communication range to **1.2 km** and reducing packet loss by **40%**
- Wrote I^2C and UART drivers for ESP32 microcontrollers to stream sensor data with latency under **50 ms**
- Built a modular WebSocket heavy backend to relay sensor data from IoT devices, with real-time alerting and historical metrics via Prometheus and Grafana
- Scripted a deployment pipeline that automated **90%** of flashing and validation, reducing technician setup time from 45 minutes to under 5 minutes

Software Team Lead — Jan. 2025 – Aug. 2025
McMaster Aerial Robotics Team — *Hamilton, Ontario*
- Led a cross-functional team of 16 to develop an object detection and autonomous navigation system using OpenCV and YOLO (PyTorch), enabling real-time drone obstacle avoidance and flight autonomy
- Organized and instructed PCB design workshops in Altium, upskilling team members and reducing hardware integration errors by **40%**
- Oversaw development and deployment of the team's Next.JS website, managing the migration to **AWS**

Frontend Developer — May. 2024 – Aug. 2024
Baitul Jannah Islamic Center (BJIC) — *Scarborough, Ontario*
- Built and launched a responsive community website for BJIC with **React**, improving accessibility on mobile devices and increasing engagement by **40%**

PROJECTS

Crypto Escrow System | *React, Node.JS, Stellar SDK, Postgres, Docker, AWS, Vercel*
- Developed a full-stack escrow payment system enabling secure transfers using Stellar smart contracts
- Built the frontend with React and deployed on Vercel; containerized backend with Docker and deployed REST APIs on Amazon Web Services AWS EC2

3D Spatial Mapping System | *MSP432E401Y, VL53L1X, Stepper Motor, Python, Open3D*
- Engineered a microcontroller-based scanning system to create 3D point clouds using Time of Flight (ToF) sensors and stepper motors, with real-time data transmission via UART
- Visualized spatial data in Python using Open3D, implementing mesh rendering for indoor environment mapping

TECHNICAL SKILLS

Languages: JavaScript, Java, Python, C, C++, C#, Sass, SQL, Bash
Frameworks: Next.JS, React, AngularJS, Express, Tailwind, Matplotlib, Pandas, NumPy, TensorFlow, PyTorch, OpenCV, MediaPipe
Libraries: Prisma, Redux, Axios, Lodash, Chart.JS
Developer Tools: Git, Node.JS, PostgreSQL, VictoriaMetrics, OpenSearch, Docker, Linux, Arduino, Prometheus, Grafana, MQTT, Kafka, Jenkins, Spinnaker