Krish Shah

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Education

University of Waterloo   Waterloo, ON
Bachelors of Applied Science in Computer Engineering   *Expected Apr 2027*

   Relevant Courses: Data Structures & Algorithms (C++), Embedded Systems (C), Systems Programming (C)

Experience

Software Engineering Intern   Sep 2025 – Dec 2025
HeyElsaAI   Toronto, ON
- Incoming Fall 2025

Software Automation Engineer Intern (Python, PowerShell, Azure, CI/CD)   Jan 2025 – Apr 2025
Toronto Transit Commission (TTC)   Toronto, ON
- Developed a Python automation pipeline for device imaging, reducing manual configuration time by **10%** weekly and accelerating the deployment of over **1,000** corporate laptops.
- Scripted Azure AD and Intune enrollment automation using PowerShell, enabling daily CI/CD builds and streamlining device provisioning for engineering teams.

Software Engineering Intern (React, Flask, PostgreSQL, OpenAI, Agile)   May 2024 – Aug 2024
Dundas Life   Toronto, ON
- Engineered an AI-powered insurance agent using a React/Flask stack and the OpenAI API; improved recommendation accuracy to over **80%** and scaled the system to support **100+** active monthly users.
- Developed an ML-driven web scraper that cut insurance data retrieval time by **40%**.
- Managed the release lifecycle for **5+** production deployments over two months by coordinating sprint planning and code reviews, resulting in zero-downtime feature rollouts.

Embedded Systems Developer (C++, ESP32, RTOS, IoT, PCB)   Oct 2023 – Dec 2024
Electrium Mobility   Waterloo, ON
- Architected and built ESP32 firmware for a universal longboard remote, achieving sub-**10µs** latency for critical control signals using Interrupt Service Routines (ISRs) in FreeRTOS.
- Programmed robust wireless communication protocols (ESP-NOW, CAN) ensuring a stable connection over a **100m+** range; collaborated on PCB design and IoT device testing.

Projects

Moodify (React, Flask, scikit-learn, AWS, Spotify API)   May 2025
- Developed a scalable, AI-powered music platform with custom NLP models trained on **10K+** samples to deliver context-aware recommendations to over **100** live users.
- Built and deployed a RESTful Flask backend on AWS, architected to support sub-200ms ML inference for real-time, dynamic playlist generation via the Spotify API.

Embedded Motor Control Module (STM32, C++, FreeRTOS, PCB)   Aug 2024
- Designed and routed a custom 4-layer STM32-based PCB for a brushless DC motor, integrating hall sensors and UART/SPI for real-time telemetry and diagnostics.
- Engineered real-time C++ firmware on FreeRTOS to execute a 1kHz PID control loop, boosting motor stability and reducing EMI under high-current loads.

Flight Tracker (Django, SQLite, REST API)   Dec 2023
- Built a full-stack Django platform to track global flights by integrating multiple REST APIs, parsing and visualizing real-time aviation data for up-to-the-minute route lookups.
- Optimized database queries with indexing, achieving a **20%** reduction in data lookup latency and ensuring a responsive UI for concurrent users.

Technical Skills

Languages: Python, C++, C, JavaScript, SQL, Bash, HTML/CSS, Java, RISC-V Assembly
Frameworks/Libraries: React, Flask, Node.js, Express.js, Tailwind CSS, Bootstrap, PyTorch, scikit-learn
Technologies/Platforms: Linux, MySQL, PostgreSQL, MongoDB, REST APIs, GCP, Azure, AWS, CI/CD