Akshat Sharma

519-992-7451| akshat@akshatsharma.ca | LinkedIn | GitHub | akshatsharma.ca

Experience

Software Developer Apr 2024 – Present

Tessonics *Windsor, ON*

- Built a **C++** PLC simulator that mirrors real production traffic, accelerating integration tests for the **RIWA** platform.
- Engineered a real-time Hall-effect current-detection algorithm in **C++**, achieving <10 ms end-to-end latency.
- Authored backward-compatible 32-bit **C++** DLLs that exposes a drop-in API, bridging legacy software to a modern **C++** inference server via WebSocket and delivering real-time deep-learning predictions with no code rewrites.
- Built a **Python**-based **Debian** packaging pipeline and self-hosted **GitHub Actions** runner, fully automating CI/CD and streamlining RIWA software deployment.
- Automated cleaning, analysis, and visualization of **EEG** & Hypnogram time-series data using **NumPy** and **matplotlib**.
- Developed **STM32** firmware (**C**) that integrates the **MCP4725** DAC and **RX8900** RTC for the SONYA sleep wearable.
- Implemented a **Bluetooth Low Energy (BLE)** GATT service on the STM32 that lets users remotely adjust stimulation intensity and toggle operating modes on the sleep-wearable in real time.
- Optimized **ISM330DHCX** IMU data capture via FIFO and I^2C, ensuring synchronized, real-time motion streams for onboard processing.

Technical Skills

Languages: C | C++17 | C++20 | Python | Java | Kotlin | Go | JavaScript

Data Science & ML: TensorFlow | PyTorch | Keras | OpenCV | NumPy | SciKit-Learn | matplotlib

Frameworks & Tools: React | Git | Docker | GitHub Actions | CMake | Conan

Database: PostgreSQL | SQLite | MySQL | Redis

Embedded / HW: STM32CubeIDE | FreeRTOS | I^2C | SPI | Arduino

Projects

Charty | *Rust, WebSocket, Finnhub API* Jan 2026 - Present

- Built a terminal-based stock market analysis application in **Rust** featuring interactive candlestick charts and real-time price streaming via **WebSocket**.
- Implemented multiple view modes including historical charts with configurable timeframes and live ticker/candle aggregation for real-time market data.
- Designed an event-driven TUI architecture handling concurrent data fetching, WebSocket streaming, and responsive keyboard navigation.

Education

University of Windsor Jan 2021 – Apr 2024

Bachelor of Computer Science Honours *Windsor, ON*

- *Specialization in Artificial Intelligence, Minor in Mathematics*

Volunteer & Awards

- **Event Coordinator, Computer Science Society** 2023 – 2024
  Organized events that served 100+ students each term and streamlined logistics to improve attendee experience.
- **Dean's Honour Roll** 2021 – 2024
  University of Windsor