Azmi-Salah Bousedra

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Education

Concordia University — Montreal, QC
Bachelor of Software Engineering (BEng) — *Sept. 2024 – May 2028*

Champlain College — Saint-Lambert, QC
Health Science Collegial Diploma (DEC) — *Aug. 2021 – Apr. 2023*

Experience

Firmware R&D Intern — Sep. 2025 – Dec. 2025
PixMob — *Montreal, QC*

- Designed and deployed a complete CI pipeline that compiles, documents, validates, and flashes firmware automatically to the correct target device, ensuring production-grade traceability and efficiency.
- Created a unified test automation framework (C++, Shell, Python) by coding a custom firmware running unit tests with a UART trace parser and XML report generator, integrating test results seamlessly into CI for real-time validation.
- Engineered a fully automated multi-device firmware flashing system using a 16-channel relay board, a microcontroller, and custom embedded firmware to control SWM, power, and ID lines, enabling parallel programming and reliable device handling.

Projects

Comments4Me | *JavaScript, Node.js, Express, Prism.js Gemini, Git* — Feb. 2025 – May 2025

- Built an AI-powered web app that analyzes and automatically comments source code using the Gemini API, improving documentation, code sharing and developer efficiency.
- Implemented Prism.js for syntax highlighting and code block styling, delivering a polished developer-friendly UI.
- Integrated front-end and back-end seamlessly to support real-time code parsing, user interaction, and comment visualization.

TuneWear | *C++, Git* — Jul. 2025 – Sep. 2025

- Designed and built a compact ESP32-powered wearable clip that displays the currently playing track in real time from any streaming service, attachable to instruments like guitars or pianos for live play-along sessions.
- Built a customizable Blynk mobile dashboard that lets users configure TuneWear's visual style, adjust display modes, and monitor real time device status through WiFi based API communication.
- Designed the full physical assembly by selecting an ESP32 T5 board, integrating a LiPo battery, and adapting a 3D printed case to achieve a compact, reliable wearable without requiring a custom PCB.

Technical Skills

Languages: C, C++, Python, Java, JavaScript, HTML/CSS, Bash
Frameworks, APIs & Libraries: Node.js, Express, React, Gemini API, Prism.js, GSAP
Developer Tools: Git, Docker, Visual Studio Code, JetBrains IDEs, Linux

Interests

Soccer, Video Editing, Basketball, Cinema