Rami Laham

Computer Engineer

A.I | Chipset | Cyber Security

PROFILE

Result-driven Computer Engineering student who bridges **hardware rigor** with **security-first software**; with a strong interest in **Artificial Intelligence**, **Hardware Design** and **System Security**. Designed **FPGA pipelines**, **real-time embedded systems** and **ML-powered apps**. Leveraging **trilingual fluency (English | French | Arabic)** to unite **cross-functional teams** in a **high-compliance, rapid-iteration environment**. Eager to join an organization where I can deepen my technical toolkit and fuel my passion for engineering **high-performance, security-centric hardware and software smart systems**.

QUALIFICATIONS

- Collaborative team player who builds rapport quickly and communicates complex ideas with clarity.
- Proven track record of delivering polished solutions under tight deadlines and shifting priorities.
- Analytical problem-solver who dissects technical challenges and proposes data-driven fixes.
- Detail-oriented engineer who pairs big-picture systems thinking with meticulous execution.
- Business-savvy mindset, adept at balancing technical scope, cost, and ROI to maximize value.
- Resource optimizer who mobilizes people, tools, and processes to accelerate project delivery and outcomes.

EDUCATION

University of Ottawa – *BASc Computer Engineering* 2021 – Present

Relevant Courses: Advanced Computer Systems Design, Data Communication & Networking, Real-Time & Embedded Systems, Introduction to A.I, Computer Architecture, Electronics & Circuit Theory, Control Systems & Signals, Data Structures & Algorithms, Operating Systems and Databases.

TECHNICAL SKILLS & DOMAINS

ARM & HCS12 Assembly ISA | VHDL / Verilog / SystemC | CUDA / C / C++ bare-metal drivers | FPGA prototyping | RTL pipelined CPU design | PCB layout & mixed-signal debug | Microcontrollers | Real-Time, Embedded & Safety-Critical Systems | System Design | FreeRTOS scheduling & fault-tolerance | Algorithmic state-machine optimization | Hard- vs. soft-RT analysis | WCET & rate-monotonic scheduling | Petri-Net / state-chart modelling | Fault containment & redundancy patterns | CPU & Micro-architecture | DMA / ISR / polling I/O | CUDA kernels & GPU memory hierarchy | SIMD/MIMD models | OpenMP multithreading | MMU & virtual memory | Kernel-space vs. user-space debugging | KVM / VirtualBox / WSL environments | Network Security | OSI stack | TCP/IP, BGP/OSPF routing | Packet analysis & forensics | Electronics & Circuit Theory | Semiconductor physics | Code Review | Data Analysis | CI/CD pipelines | Formal methods (BNF, syntax trees, model checking) | AI / ML | Neural-net training loops | OO & UML | Agile/SCRUM & Sprints | Requirements elicitation | Malware Analysis |

TECHNOLOGIES & TOOLS

AI Deployment | Machine Learning Libraries & Frameworks | Python | CUDA / C / C++ | Java | JavaScript/TypeScript | HTML/CSS | React | SQL | Microsoft Azure | Firebase | MongoDB | ARM & HCS12 Assembly | Neural Network Training | Computer Vision (OpenCV) & Reinforcement Learning | | OpenMP | GPGPU profiling tools | FreeRTOS | STM32CubeIDE | CodeWarrior | Arduino IDE | Intel Quartus II | ModelSim | KiCAD | Jupyter Notebook | TensorFlow / Keras | Pandas | Scikit-learn | PyTorch | Numpy | Matplotlib | Seaborn | Windows, Mac & Linux OS (Embedded or not) | Wireshark | | Git | GitHub | Docker | Jira | Trello | Cisco Packet Tracer | OpenSSL CLI | Microsoft Defender for Endpoint | Firebase |

MongoDB | Android Studio | React Native | React JS | BootStrap | Figma (UI) | VirtualBox & WSL | REMnux | VMware Workstation

EXPERIENCE

Indigenous Services Canada – ***Mobile IT Specialist*** Jun 2022 – Dec 2023

- Led national device deployment projects of 1 500 + iOS/Android endpoints, managing logistics and coordination with cross-functional teams, ensuring seamless technology rollouts and operational continuity across Canada.
- Delivered technical support, meeting or exceeding SLA targets. Closed 40 + support tickets / week; diagnosing hardware, OS, and network issues both remotely and on-site. Showcasing exceptional troubleshooting skills and a proactive approach to resolving complex IT issues.
- Played a key role in incident response, collaborating with multi-disciplinary teams to identify root causes and implement effective resolutions.
- Developed expertise in networking, systems integration, and user-centric solutions, demonstrating technical leadership and adaptability.
- Streamlined Identity and Access Management (IAM) by efficiently automating provisioning, de-provisioning workflows and tightening permission baselines, strengthening system security and access control nationally.

Kallisto Greek Restaurant – ***Computer Technician and Floor Manager*** Jun 2015 – Nov 2023

- Resolved hardware and POS system issues, optimizing operational efficiency, and ensuring minimal downtime.
- Built freezer & fridge temperature alert with Arduino, preventing $10K+ spoilage events per year.
- Streamlined workflows with technology-driven solutions, showcasing troubleshooting and problem-solving skills.
- Led a cohesive team of 15 front-of-house staff by fostering collaboration, resolving conflicts, and mentoring staff, enhancing team chemistry and operational performance.
- Delivered exceptional customer service, effectively communicating technical solutions to non-technical stakeholders in person and over the phone.
- Developed strong leadership, decision-making, and team management skills, transferable to roles in the tech field.

PROJECTS

April 2025 (Computer Engineering Design Project – University of Ottawa):

Interactive Chessboard (In-Progress of Manufacturing) – Github : Led a team of 6 engineers to develop a Python, C & TypeScript-powered smart chessboard that tracks every piece in real time, displays legal moves, flags mistakes and integrates an adaptive AI chess engine that can either coach with move-hint or switch to rival-level play for full competitive games.

- Presented at Engineering Design Day; winning 2nd place for hardware/software design.
- Firmware (C) on a Raspberry Pi 4 handles I²C-multiplexed sensor scanning at 60 Hz, debouncing, and error-correction; cut false-positives to ‹0.5 % after two PCB revisions.
- Python micro-service interprets sensor data, runs rules engine, and exposes a REST API for UI & AI engines.
- TypeScript + React front end renders live board state, move history, and LED hints; usability study showed 40 % faster game-set-up for casual players.
- Designed a two-layer PCB, routed power/ground planes for sensor readings, and coordinated SMT assembly.

- Followed Agile/SCRUM with 20 sprint stories; maintained 95 % on-time completion and delivered a 50-page hardware-software report.

December 2024 (Software Engineering Mobile App Project – University of Ottawa):

PC Builders – Github : Collaborated with a team of 6 members to develop PC Builders, a Java & Kotlin-based Android application designed for managing PC hardware inventory and facilitating user-friendly system-building processes, tailored to client specifications.

- Conducted regular meetings with the client to gather requirements, align deliverables, and incorporate feedback into the development cycle, ensuring the final product met their expectations.
- Designed and implemented core features, including inventory management with a stock visualizer, item addition, and quantity increment/decrement functionality.
- Leveraged Android Jetpack libraries to streamline app functionality and ensure seamless user interaction with intuitive interfaces.
- Utilized Google Firebase for database management, enabling efficient storage and retrieval of inventory data with high performance and reliability.
- Led GitHub-based collaborative development, ensuring efficient version control, task management, and code integration.
- Presented the application to the client, highlighting its usability, functionality, and adaptability for real-world system-building tasks.

December 2023 (Accessible Product Development Project - University of Ottawa):

Access-19 - Github : Collaborated with a team of 5 members to design and develop Access-19, an accessible Android/iOS application using JavaScript in React Native with Machine Learning, aimed at assisting visually impaired users in interpreting universal test strip results through verbal output.

- Conducted client meetings to gather and refine requirements, ensuring the application aligned with accessibility standards and user needs.
- Integrated a Machine Learning model using TensorFlow.js API, trained and evaluated for accurate and efficient test strip analysis.
- Implemented image recognition functionality that analyzes test strip images to determine results as Positive, Negative, or Inconclusive, providing users with audio-based feedback.
- Enhanced the user experience with custom animations created using the React Native Animated library, resulting in an engaging and intuitive interface.
- Successfully presented the project during the Design Day Engineering Competition, showcasing the product's innovative features and social impact to a panel of judges.
- Utilized GitHub for collaborative development, code management, and project documentation.