

# Zaid Ahmad

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## Education

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**B.Sc. Computer Science, AI and Machine Learning Stream** | *Carleton University*      Ottawa, ON · Sept 2024 – May 2028  
Coursework: Data Structures & Algorithms, C/C++, Linear Algebra, Discrete Structures II, Web Applications

## Technical Skills

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**Languages:** C++, C, Java, Python, JavaScript, TypeScript

**Frameworks & Libraries:** React (Next.js), React Flow, Node.js, Express, Tailwind CSS, Framer Motion

**Tools & Platforms:** Git/GitHub, GitHub Actions API, Firebase, MongoDB, Supabase, Linux, Netlify, Render, POSIX Threads

## Experience

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**Project Officer (FSWEP)** | *Immigration, Refugees and Citizenship Canada*      Ottawa, ON · June 2026 – Aug 2026

- Reduced manual processing time for repetitive team workflows by developing Python automation scripts within the IT Capacity Management team at IRCC.
- Accelerated IT decision-making across IRCC by assessing business system intake requests and translating client needs into structured, actionable requirements documentation.
- Enabled data-driven senior management briefings by collecting and synthesizing intake data from multiple sources into consolidated reports.
- Improved team response quality by drafting correspondence and documentation for senior-level review within the Centralized IM/IT Intake Team (CIIT).

**Logistics Coordinator** | *cuHacking*      Ottawa, ON · Sept 2025 – Present

- Reduced day-of coordination failures across a 200+ participant hackathon by authoring pre-event checklists and run-of-show documents that standardized setup for scheduling, rooms, and equipment.
- Eliminated resource shortfalls across 10+ teams on event day by tracking buffer stock and flagging inventory gaps during pre-event audits before they became blockers.

## Projects

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**CarletonCourseMap** | [github.com/zaidahmad16/CarletonCourseMap](https://github.com/zaidahmad16/CarletonCourseMap)

*Python · BeautifulSoup · FastAPI · PostgreSQL · Next.js · React Flow*

- Eliminated manual degree planning for Carleton students by scraping the academic calendar with BeautifulSoup, modelling prerequisite chains as a DAG, and exposing course data via a REST API.
- Surfaced prerequisite conflicts in real time by rendering course dependency graphs with React Flow and flagging unmet requirements dynamically in a drag-and-drop semester planner.

**STM32 Doom Bootloader** | [github.com/zaidahmad16/stm32-doom-loader](https://github.com/zaidahmad16/stm32-doom-loader)

*C · ARM Cortex-M4 · Linker Scripts · OpenOCD · STM32F4*

- Implemented a stage-1 bootloader from scratch at 0x08000000 with CRC-32 image verification, halting on corruption and jumping to a staged Doom application at 0x08010000 on success.
- Rendered a boot splash and loaded shareware WAD from SD card by wiring an ILI9341 SPI LCD and writing bare-metal SPI and SD drivers without HAL dependencies.

**Linux Wireless Kernel Patch** | [github.com/zaidahmad16/mac80211-ht-downgrade-fix](https://github.com/zaidahmad16/mac80211-ht-downgrade-fix)

*C · Linux Kernel · Wireless Networking*

- Restored full wireless throughput on a home network by identifying a firmware incompatibility between a WiFi adapter and router, then patching the Linux kernel's wireless driver directly in C.

**Multithreaded C Simulation** | [github.com/zaidahmad16/COMP2401-Final-Project](https://github.com/zaidahmad16/COMP2401-Final-Project)

*C · POSIX Threads · Semaphores*

- Achieved stable execution across 1,000+ simulated ticks with no deadlocks or memory leaks by implementing a concurrent agent simulation using POSIX threads, semaphore synchronization, and manual memory management.

## Certifications & Clearances

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**Government of Canada Reliability Status Security Clearance** · Issued 2026