Abdur Rahman

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Computer Science student building AI-powered applications and self-hosted web apps

EDUCATION

McMaster University — Hamilton, ON

Bachelor of Applied Science, Computer Science (Level 1) · Intended Minors: Mathematics, Innovation — Sep 2026 – Expected 2031

- Coursework: Introduction to Programming, Computational Thinking, Linear Algebra, Calculus

Nixor College — Karachi, Pakistan

Cambridge International A Levels: Computer Science, Mathematics, Physics — Aug 2024 – Jul 2026

TECHNICAL SKILLS

Languages & Databases: Python, SQL (SQLite), HTML/CSS

AI / ML: Local LLM inference (Ollama, Llama 3.1), prompt engineering for structured output, TensorFlow, Keras

Platforms & Tools: Linux (Debian), Docker, Proxmox VE, Cloudflare Tunnels, Authentik SSO, AI coding assistants

PROJECTS

AI-Powered Search Assistant | *Python, Ollama, Llama 3.1 8B* — Personal Project

- Built a Python tool that turns natural-language requests into search queries and automatically opens the most relevant websites
- Ran Llama 3.1 8B locally through Ollama on an Apple M5 MacBook Air, so every request is processed on-device with no cloud API costs
- Engineered prompts that force structured, machine-readable model output the application can parse and act on reliably

Alpha – Personal AI Assistant | *Python, Ollama, local LLMs* — In Progress

- Designing a long-running AI assistant with persistent memory that uses deterministic, rule-based curation to decide what is stored
- Designed safety into the architecture: human-in-the-loop approval, confirmation gates, and tool allowlists before any system action
- Running local inference on an Apple M5 MacBook Air through Ollama, keeping all data on-device

Self-Hosted App Platform | *Docker, Linux, Proxmox* — Personal Project

- Developed and host my own web apps, including a central dashboard and a network print-and-scan app, on a 2-node Proxmox cluster
- Designed a custom interface for every self-hosted application (Nextcloud, Immich, AdGuard) for a consistent user experience
- Automated a daily job that generates and prints a document each morning without manual input
- Integrating single sign-on with Authentik and Duo MFA so one account securely accesses every app

AI Material Recognition & Bidding System – Chief Information Officer | *Python, TensorFlow, Keras* — School Project

- Led technical development of a team project that identifies objects from images and calculates appropriate bids
- Collected and prepared the training dataset, then built, trained, and evaluated a multi-class image classification model
- Integrated the trained model into the bidding algorithm, delivering the final working system

CERTIFICATIONS

Programming for Everybody (Getting Started with Python) | *University of Michigan / Coursera* — Sep 2025

LEADERSHIP & VOLUNTEERING

Model United Nations – Delegate — Karachi, Pakistan

- Researched, negotiated, and presented positions in committee, building clear communication and public speaking skills

Nixor Hospital (student-run clinic) – Volunteer — Karachi, Pakistan

- Supported clinic staff with day-to-day operations and assisted patients in a fast-paced healthcare setting