Abubakar Shaikh

abu2012only@gmail.com +1 825 523-2882 github/Akuma277353 linkedin/abu-shaikh Portfolio

EDUCATION

University of Alberta 09/2023 – 05/2027 | Edmonton, AB

Bachelor of Science in Computing Science (*Major in A.I*)

- Relevant Coursework: Algorithms, Computer Architecture, Reinforcement Learning, Machine Learning, Software Engineering, File & DBMS, Web Apps & Architecture

PROJECTS

Autonomous Overload Remediation System (AORS) 01/2026 – Present

Python | *FastAPI* | *scikit-learn* | *psutil* | *Streamlit*

- Built an autonomous controller that detects and remediates sustained CPU overload on real hardware using psutil telemetry and temporal signal fusion.
- Implemented online adaptive work-intake control (EWMA + Welford) to map request rate to CPU utilization without hardcoded thresholds.
- Trained a scikit-learn classifier to distinguish normal traffic spikes from retry storms, enabling targeted mitigation.
- Shipped a decoupled FastAPI control plane + Streamlit dashboard; demonstrated recovery from **90%+ CPU saturation in <30s**.

Data-Driven Event Allocation Platform (AuroraChance) 09/2025 – 12/2025

Android | *Firebase* | *Java* | *Google Maps SDK*

- Built a **data-driven event allocation system** using probabilistic lottery sampling to ensure fair access to high-demand community events.
- Implemented **real-time data synchronization** with Firebase Firestore for entrants, organizers, and administrators.
- Modeled structured datasets for events, users, waitlists, and notifications with consistency under concurrent updates.
- Integrated geolocation data via Google Maps and Places APIs for **location-based validation**.
- Coordinated a 6-member team using GitHub workflows and delivered **45+ user stories** using Agile Kanban.
- Used UML, CRC cards, and automated tests to improve reliability.

Mini Compiler Back End: RISC-V to WebAssembly 10/2025 – 11/2025

RISC-V | *WASM* | *LEB*128

- Built a binary translator converting RISC-V program binaries into WASM bytecode while preserving program semantics.
- Parsed and mapped I-type, R-type, and branch instructions into WASM expressions, handling immediates and the zero register.
- Implemented LEB128 encoding for integer literals to generate compact WASM immediates and return correct byte counts.
- Supported structured control flow by computing forward/backward branch targets and inserting correct block/loop/end bytecodes using a target-count table.

LEADERSHIP AND AWARDS

Awards & Recognition 04/2023

- 3rd Place, World Robotics Olympiad Nationals UAE
- University of Alberta Regional Excellence Scholarship – $5,000
- University of Alberta International Admission Scholarship - $5,000

Good Will Ambassdor's Club, President 05/2022

- Held multiple charity drives and fundraising events as the president.
- Coordinated weekly leadership and project meetings, aligning teams, managing timelines, and supporting the club's long-term growth.

SKILLS

Programming languages
Python, Java, JavaScript, C, SQL, Bash, RISC-V Assembly

Web & App Dev
HTML, CSS, RESTful APIs, Frontend & Backend Development, Android Development

Cloud & DevOps
AWS (Solutions Architect Associate – in progress, completing Feb 2026), CI/CD fundamentals

Software Development
Object-Oriented Programming, DSA, Version Control (Git/GitHub), Agile/Kanban

Tools and Frameworks
Git, GitHub, VS Code, Android Studio, Firebase, React, Linux, MongoDB

Data Science & ML
NumPy, Pandas, Matplotlib, Reinforcement Learning, Neural Networks (Foundations