

Sophina Akram

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SUMMARY

Penultimate-year Computer Science student specialising in backend and distributed systems. Experienced with C#, Go, Node.js/TypeScript, React Native, Docker, and AWS. Strong focus on authentication, API design, cloud deployment, and scalable architecture. Currently deepening expertise in database systems, object-oriented design, and distributed computing.

EDUCATION

2023–2027 **University of Dundee**, Dundee, Scotland

BSc (Hons) Computer Science: Data Science and AI

Coursework: Modern Web Stack Development, AI & Machine Learning, Database Systems, Data Structures & Algorithms

TECHNICAL SKILLS

Languages: Python, Java, C, C++, JavaScript, TypeScript, Go, C#, SQL

Frameworks: React, React Native, Node.js, Express.js, Next.js, ASP.NET Core

Tools: Docker, Git, GitHub, AWS, MongoDB, PostgreSQL, Unix/Linux, Shell Scripting, VS Code

Spoken Languages: English (Fluent), Arabic (Fluent)

PROJECTS

Real-Time Analytics Dashboard

2025–Present

- Built a multi-service real-time analytics platform using **C#, Go**, and **TypeScript**.
- Developed a C# ASP.NET Core event-ingestion API with REST and WebSocket endpoints.
- Implemented a **Go API gateway** with JWT auth, rate limiting, and concurrent request handling.
- Deployed all services using **Docker Compose** with isolated containers.

HalalWay

2025–Present

- Cross-platform mobile app using **React Native** with a **Node.js/TypeScript** backend.
- Implemented secure authentication, map-based location features, and review submission.
- Designed scalable REST APIs and optimised **MongoDB** queries using indexing.
- Applied defensive coding and error-handling practices for reliability across iOS/Android.

HTTP Digest Authentication System

2025

- Built custom **Python middleware** implementing HTTP Digest Authentication (SHA-256).
- Created secure and intentionally vulnerable variants to analyse replay attacks and hashing weaknesses.

Campus Companion (Hackathon Winner)

2025

- Built a student onboarding platform using **Next.js/TypeScript** in a 24-hour hackathon.
- Led development of an LLM-powered Q&A feature integrating external APIs.

Additional Projects

2024

- Java Console Library Manager:** CRUD system with OOP, validation, and file persistence.
- Graph Pathfinding System:** Implemented Dijkstra's algorithm in C with an adjacency matrix.
- Process Scheduling Simulator:** Simulated RR and STCF scheduling in C++ with performance analysis.

EXPERIENCE

Welfare Officer — Dundee University Computing Society

2025–Present

Led community wellbeing initiatives and collaborated with staff and students to support engagement.

Promotion Lead — Angus & Dundee District Volleyball

2025–Present

Managed social media and designed website content to improve community outreach.

Private Tutor

2022–Present

Delivered one-on-one maths and science tutoring adapted to varied learning needs.