

Ali Badarne

Computer Science Student | AI-Powered Software Engineering

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Summary

Second-year CS student with a strong technical foundation in Java, C/C++, and Python. Experienced in developing multi-threaded systems and full-stack mobile applications. Expert at leveraging AI-assisted development to bridge the gap between complex backend architectures and production-ready deployments. Focused on building scalable, high-performance software with a proven ability to take technical concepts from academic theory to the App Store.

Education

B.Sc. in Computer Science | Ben-Gurion University of the Negev

Expected Graduation: April 2028

Technical Skills

Languages	Java, JavaScript, Python, C/C++, C#, SQL, HTML, CSS
Frameworks	React Native, Expo, Spring Boot, REST APIs, Boost.Asio, React Navigation, Reanimated
Databases	Firebase, Firestore, PostgreSQL, SQLite, Cloudinary
Core	Full-Stack Architecture, OOP, Concurrency, Design Patterns, Data Structures, Algorithms
Tools	Git/GitHub, Maven, Make/GCC, Valgrind, IntelliJ, VS Code
Spoken	Arabic (Native), English (Fluent), Hebrew (Fluent)

Projects

AI-Ameen Stud Management (React Native, Expo, Firebase, Cloudinary, i18n, Reanimated)

- Production-grade mobile app with role-based access (Admin, Client, Worker, Visitor), backed by Firebase Auth + Firestore, with Cloudinary for media. Real-time lesson scheduling, payment tracking, and push notifications. Multilingual support (Arabic, Hebrew, English) with RTL/LTR layouts. Leveraged AI tools for rapid prototyping while owning architecture and deployment. Published on the Apple App Store.

Employee Management API (Spring Boot, PostgreSQL, JPA, REST, Maven)

- REST API with full CRUD + PATCH for employee management. DTOs, GlobalResponse wrapper, Bean Validation, centralized @ControllerAdvice exception handling. PostgreSQL via Spring Data JPA.

STOMP World Cup Informer (Java, C++, Python, Boost.Asio, NIO, SQLite)

- Client-server messaging system implementing STOMP 1.2 over TCP. Java server with Thread-Per-Client & NIO Reactor concurrency models. C++ client using Boost.Asio with multi-threaded I/O. Python SQLite micro-service for persistent data storage.

Linear Algebra Engine (Java, Multi-Threading, Jackson, JUnit 5, Maven)

- Multi-threaded engine evaluating linear algebra computations from JSON expression trees. Row-level parallelism, custom fatigue-based thread pool (min-heap), thread-safe shared memory with ReentrantReadWriteLock, and JUnit 5 test suite.

DJ Session Management System (C++, OOP, LRU Cache, Make, Valgrind)

- Audio track management with playlists, LRU cache, and mixing operations. Clean OOP with polymorphism, RAII memory management. Verified leak-free with Valgrind.

Additional Experience

- Shipped a production React Native app to the Apple App Store with role-based access, scheduling, payments, and push notifications. Managed Firebase, Firestore, and Cloudinary infrastructure. Leveraged AI tools for rapid prototyping while owning architecture and deployment.
- Hackathon participant — delivered working prototypes under tight deadlines using fast iteration and AI-assisted development.
- Built clean backend APIs following production patterns: DTO mapping, input validation, service-layer architecture, and centralized exception handling with PostgreSQL persistence.