

Hassan Bazzoun

Software Engineer

📍 Lebanon

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🌐 github.com/xcodeBn

Education

Master of Science in Computer Science

Lebanese International University, Beirut, Lebanon

Thesis: Environmentally Aware Dynamic Clustering Algorithm (EADC)

Mar. 2022 – Jul. 2025

GPA: 3.5/4.0

Bachelor of Science in Computer Science

Lebanese International University, Tyre, Lebanon

Sep. 2017 – May. 2021

Professional Experience

Android Engineer Intern — FOO.mobi

Jun. 2025 – Sep. 2025, Beirut, Lebanon

- Contributed to an existing Android production codebase by debugging and modernizing legacy modules, resolving compatibility issues, and improving code structure to align with modern Android and Kotlin best practices.
- Implemented user-facing screens and reusable UI components by translating Figma designs into Jetpack Compose, including animations and interaction flows based on product requirements.
- Designed and built an internal Kotlin Multiplatform library that served as a shared abstraction layer over company backend APIs, enabling consistent and reusable data access across mobile platforms.
- Mentored fellow interns by assisting with Kotlin and Android concepts, reviewing code, and unblocking development issues, contributing to smoother collaboration and overall team velocity.

Freelance Software Engineer

2023 – 2025, Lebanon

- Developed full-stack applications for clients, delivering backend services with Spring Boot and modern frontend solutions.
- Designed and implemented RESTful APIs, database schemas, and authentication flows for production-ready systems.
- Built native Android applications tailored to client requirements, focusing on performance and maintainability.
- Refactored and modernized existing codebases using clean architecture and modern design patterns.

Bug Bounty Hunter — HackerOne

Jul. 2025 – Present, part-time Remote

- Identify and report security vulnerabilities in web applications and APIs across bug bounty programs.
- Perform penetration testing and vulnerability assessments to improve application security posture.
- Collaborate with security teams to reproduce, validate, and remediate discovered vulnerabilities.

Selected Projects

Human Line – Multi-Tenant SaaS Application

Feb. 2026 – Mar. 2026

- Architected and implemented a multi-tenant HR SaaS platform with strict organization-level data isolation and fine-grained role-based access control (RBAC).
- Designed relational data models using **PostgreSQL** and **Prisma ORM**, applying proper normalization, indexing strategies, and transactional integrity to ensure performance and consistency.
- Developed a modular backend using **NestJS**, implementing secure authentication, authorization guards, audit logging, and scalable service-layer architecture.
- Built a performant frontend using **Next.js**, structured within a **Turborepo monorepo** with shared, validated **Zod contracts** to maintain end-to-end type safety.
- Containerized services using **Docker** and integrated **MinIO** for object storage to manage internal documents and media assets.
- Implemented core HR modules including employee lifecycle management, onboarding workflows, attendance tracking, scheduling, holidays, recruitment pipelines, and internal documentation.

I don't care — Notification Filter (Shipped)

Apr. 2025 – Jun. 2025

- Built a native Android notification management app that filters and auto-dismisses unwanted marketing and promotional notifications.
- Designed a customizable filtering system using keywords and app-based rules to prioritize important notifications.
- Implemented a modern, declarative UI using Jetpack Compose with Material Design principles.
- Developed the app in Kotlin using the Android ecosystem, with Room for reliable offline data persistence.
- Published and maintained the application on Google Play.
- Check it on Google Play

Environmentally Aware Dynamic Clustering Algorithm (EADC) — WSN Research

Feb. 2025 – Jul. 2025

- Designed a novel clustering algorithm for wireless sensor networks that incorporates real-time environmental conditions into cluster head selection.
- Developed a multi-criteria fitness function combining environmental stability, residual energy, and distance to the base station.
- Simulated localized environmental events to evaluate system behavior under adverse conditions.
- Benchmarked the algorithm against the LEACH protocol, achieving extended network lifetime, delayed first node death, improved node survival in critical zones, and higher data throughput.

Patient Management System — Java/Spring Boot Microservices

Sep. 2025 – Dec. 2025

- Built distributed microservices handling patient records, billing, analytics, and notifications.
- Implemented inter-service communication using both REST and gRPC.
- Used Kafka for asynchronous event streaming and Redis for caching and performance optimization.
- Containerized services with Docker and simulated cloud infrastructure using LocalStack.
- Designed APIs with OpenAPI/Swagger and wrote automated tests using JUnit.
- Check it on GitHub: github.com/xcodeBn/patient-management-system

Habu — Multi-Tenant E-Commerce Platform (Bachelor Graduation Project)

Feb. 2021 – Apr. 2021

- Designed and built a multi-tenant e-commerce platform with role separation between platform administrators and store managers.
- Developed the Android client in Java using XML layouts and the traditional View system.
- Implemented a PHP backend with MySQL, exposing RESTful APIs and enforcing role-based access control (RBAC).
- Built an admin dashboard for product management, order processing, and sales analytics.
- Integrated SMS-based OTP authentication and automated notification workflows.

Technical Skills

Languages: Java, Kotlin, TypeScript, JavaScript, Python, C++, PHP, C#

Mobile & Frontend: Native Android Development with java/kotlin/jetpack compose, Kotlin/Compose Multiplatform, ReactJs, Next.js , TailwindCss

Backend: Spring Boot, Spring MVC, Spring Data JPA, Hibernate, Node.js, NestJS, REST, gRPC, WebSockets , Event-Driven Architecture

Infra/Data: Docker, Git, GitLab CI/CD, Kafka, Redis, PostgreSQL, MongoDB, Firebase, GCP

Testing & Security: JUnit, Mockito, MockK, OWASP Top 10, Burp Suite, OWASP ZAP

Continuous Learning

OnRamp Academy – Advanced Software Engineering Bootcamp (by Forward Mena)

Dec. 2025 – Mar. 2026

- Took part in an intensive full-stack program focused on modern software development best practices across backend, frontend, databases, security, DevOps, and Agile delivery.
- Designed scalable backend systems using **NestJS**, applying modular architecture, dependency injection, and secure authentication/authorization patterns.
- Strengthened database design skills including schema modeling, SQL optimization, transactions, data integrity, and security practices.
- Built performant web applications using **Next.js (React)**, focusing on rendering strategies, state management, caching, and performance optimization.
- Applied secure development principles, collaborative Git workflows, peer reviews, and Agile Scrum methodologies.
- **Capstone Project: Human Line – Multi-tenant HR SaaS Application**

Languages

Arabic: Native **English:** Fluent