

MOHAMAD BALAA

SOFTWARE ENGINEER

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SUMMARY

Software Engineer with professional experience designing, implementing, testing, and maintaining backend systems for enterprise software. Proficient in Java, Scala, SQL, REST APIs, object-oriented programming, and relational database design. Experienced in translating business requirements into reliable technical solutions, investigating production issues, optimizing database queries, and delivering features within Agile development teams.

PROFESSIONAL EXPERIENCE

Backend Software Engineer, Oryx Dental Software

June 2025 - Present

- Developed and maintained backend functionality across Patient Communication, Insurance, and Clinical Management modules using Scala, Java-based technologies, REST APIs, and MySQL.
- Designed and implemented a reusable multi-image OCR API, reducing manual data entry for new patients by approximately 50% and supporting integration across additional workflows.
- Translated business requirements into backend logic, database queries, validation rules, and scalable technical solutions within an enterprise software environment.
- Collaborated with product, frontend, QA, and senior engineers throughout requirements analysis, development, code review, testing, and staging deployment in an Agile team.
- Investigated staging and production issues through log analysis, API testing, and root-cause analysis, implementing fixes and query optimizations to improve system reliability and performance.

Web Developer Intern, ANERA

Jan 2023

- Designed and implemented data processing and visualization models to track analytics across 16 regional sites; streamlined reporting workflows to provide clear, actionable insights for stakeholders.

Teaching Assistant, American University of Beirut

Jan 2023 - Dec 2023

- Communicated complex technical and analytical concepts clearly to groups of 20+ students, fostering collaborative problem-solving and structured logic.

EDUCATION

Bachelor of Engineering in Computer Science Engineering
(Cybersecurity Track)

Sep 2021 - May 2025

American University of Beirut

SKILLS

- Programming Languages:** Java, Scala, Python, JavaScript, SQL
- AI & Automation:** Python automation, Prompt Engineering, AI Research Tools, Chatbot Integration
- Backend Development:** REST APIs, Object-Oriented Programming, Error Handling, Logging, Authentication
- Databases & Data:** MySQL, Relational Data Modeling, Query Optimization, Data Modeling
- Modern Development Practices:** Git, Jira, Code Review & Version Control, Agile Development

ACADEMIC PROJECTS

E-Commerce Microservices Platform

- Developed a containerized e-commerce platform with 4 modular services supporting core purchasing workflows.
- Designed service architecture, databases, and APIs to ensure scalability and data isolation.
- Implemented secure communication, validation, error handling, and automated integration tests.

Peer-to-Peer Currency Exchange Platform

- Developed real-time data exchange and secure transaction workflows for a financial platform.
- Engineered complex location-based matching algorithms and designed clean APIs for user interaction.