

Ziad AlRawashdeh

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A Backend Engineer with experience in designing end-to-end systems, REST APIs, and building microservices with Spring Boot, JPA, MongoDB, and Redis. Skilled in building UIs with React, and deploying CI/CD pipelines using Docker, GitLab CI/CD, and Nginx.

Experience

Material Insights

June 2023 - Now

Software Development Engineer

- Architected **system design** for multiple products: defining **REST APIs**, determining the best-fit database, modeling **data schema**, and handling edge cases and **testing**
- Developed backend **microservices** with **Spring Boot**, **JPA**, **MongoDB** and **REST APIs**
- Included **unit and integration tests** for all microservices using JUnit and Mockito
- Configured **Redis caching** to reduce API response times of data-heavy microservices by up to **50%**
- Developed a customer inquiry management panel with **Spring Boot**, **MongoDB** and **React**
- Maintained and deployed company's products on **on-premise Ubuntu servers**
- Built and automated **CI/CD pipelines** using **Gitlab Runner** for products deployment
- Managed deployments using **Docker**, **Nginx** for **reverse-proxying** & **Cloudflare** for **load balancing**

Technical Skills

Languages	Java, TypeScript, JavaScript, Python, Bash
Frameworks	Spring Boot, Next.js, React, Node.js
Databases	MySQL, PostgreSQL, MongoDB, PGVector
Tools	Docker, Gitlab CI/CD, Kafka, Kibana, Prometheus
Server Config	Ubuntu Server, Nginx, Cloudflare, Cron

Education

University of Jordan
Computer Engineering

Oct 2020 - May 2025
GPA: 3.58

Projects

Multi-tenant Client Data Architecture

- Developed a secure **multi-tenant** database architecture to host **clients sensitive data** using MongoDB, Docker and Spring Boot
- Ensured **data protection** by isolating each client on a dedicated database instance, using TLS encryption and database credentials
- Built an admin dashboard to **manage tenants**, monitor analytics, and upload / export client data on demand
- **Automated** backup, restore, and disaster-recovery procedures using **Cron** jobs and MongoDB tools

Data Visualization and Comparison Tool

- Built a React, Spring Boot and Redis application to visualize and compare **thousands of data points** with **sub-second** load times
- Ensured **high performance** by using Redis caching, pagination, data resolution and React memo
- Added **client-side filtering**, sorting controls, and on-demand data detail expansion
- Enabled **importing of external data** to allow clients to compare off-the-shelf datasets and their own

Access Control Manager

- Implemented **attribute-based access control** to allow dynamic, fine-grained control over feature access & client permissions
- Implemented **hierarchical permission** inheritance, allowing client employees to receive fine-grained access
- Developed **audit logging** of all permission changes and access attempts, with searchable logs
- Deployed as a microservice which other microservices consult to determine the permissions of a client

Web Based RAG System

RAG System with Cluster Semantic Chunking

- Built a web-based RAG system using **OpenAI API** and **PGVector**
- Implemented custom chunking logic based on **Cluster Semantic Chunking** research
- Hosted the system on a **VPS** using **FastAPI**, Docker, and Nginx
- Enabled users to upload and semantically search through their own documents via a web interface

Realtime Exercise Assistant

Real-time exercise (action) recognition system

- Fine-tuned a classification model using MMAAction2 on a custom video dataset achieving **>95% accuracy**
- Deployed inference service using Flask on a **GPU-powered VPS**
- Designed a request optimization middleware, reducing average response time by more than 50%
- Users can preform exercises in front of their camera, and the system gives instant score and feedback on how to improve on their performance

Volunteering

American Corner at JU

June 2023 - November 2023

Head of Debate & Book Clubs

- Managed and presented weekly debate and book club session which were attended by tens of students
- Encouraged discussions and participation by making sure my communication style accommodates that of all students
- Curated weekly debate topics and involved students opinion in polls
- Ran social-media campaigns and groups to drive club attendance