

# ALBARAA AHMED

## Software Engineer / Backend and Full-Stack / AI-Augmented Development

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### SUMMARY

Backend-focused software engineer with over 3 years building and scaling production systems in insurance, e-learning, and adtech. Strong in Java and Spring Boot, Node.js and NestJS, and Go, with hands-on ownership of microservice architecture, resilience patterns, cloud infrastructure, and CI/CD. Comfortable across the stack with Angular and Next.js, and works fluently with modern AI coding agents, MCP tooling, and RAG pipelines as part of a disciplined engineering process. Longstanding competitive programmer, which underpins a strong algorithmic and problem-solving foundation.

### PROFESSIONAL EXPERIENCE

#### Software Engineer - Tawuniya

05/2025 - Present

Riyadh, Saudi Arabia / Java, Spring Boot, Microservices, Redis

- Redesigned and optimized the backend architecture of a core insurance platform, improving response times, scalability, and resource efficiency under production load.
- Led development of biometric authentication and quick-login, strengthening account security while cutting sign-in friction for end users.
- Delivered a key insurance module end-to-end, streamlining internal workflows and reducing manual operational effort.
- Introduced rate limiting and circuit breakers across service boundaries, preventing cascading failures and keeping the platform stable during peak traffic.
- Decomposed features into microservices, improving modularity, deployment independence, and long-term maintainability.
- Supported critical production incidents, diagnosing and resolving issues quickly to protect uptime and SLA commitments.

#### Software Engineer - Hilbertech

08/2024 - 05/2025

Java, Spring Boot, PostgreSQL, Angular, AWS, Azure

- Built robust backend microservices with Spring Boot and PostgreSQL handling complex business logic and high-volume data management over 9 months.
- Designed and maintained CI/CD pipelines automating build, test, and deployment, shortening release cycles and reducing manual deployment errors.
- Developed responsive, dynamic user interfaces in Angular, improving usability across devices.
- Contributed to cloud infrastructure and containerized deployments on AWS and Microsoft Azure.

#### Backend Engineering Intern - WhiteBoard

02/2024 - 04/2024

Remote / PHP, Laravel

- Developed features and content-management services for a teaching platform alongside a team of engineers across a 3 month internship; wrote unit tests and technical documentation.

### TECHNICAL SKILLS

|                  |                                                                                                                                                                                                                   |
|------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Languages        | Java, TypeScript, JavaScript, Go, C/C++, C#, SQL, Bash                                                                                                                                                            |
| Backend          | Spring Boot, Spring Security, Spring Data JPA, NestJS, Express.js, Node.js, Go, REST APIs, Microservices, Redis, Laravel                                                                                          |
| Frontend         | Angular, Next.js, HTML, CSS, Tailwind, Bootstrap                                                                                                                                                                  |
| Databases        | PostgreSQL, MySQL, MongoDB, Redis, SQLite, vector stores                                                                                                                                                          |
| Cloud and DevOps | AWS (S3, EC2), Microsoft Azure, Docker, Kubernetes, GitHub Actions, GitLab CI, Linux                                                                                                                              |
| AI Engineering   | Claude Code, Cursor, MCP (Model Context Protocol) servers, multi-agent workflow design, RAG pipelines, embeddings and semantic search, context and prompt engineering, spec-driven and test-guided AI development |
| Practices        | System design, microservice decomposition, rate limiting and circuit breakers, RBAC, JWT and OAuth2, caching, CI/CD, unit testing, OpenAPI/Swagger, Agile                                                         |

### SELECTED PROJECTS

- **Meem E-Commerce** - E-commerce REST API (Spring Boot, MySQL, JPA, Redis, Spring Security): RBAC across multiple roles, scalable session management, pagination/filtering/search, global exception handling, performance profiling, unit tests, and full Swagger documentation.
- **Learnovate** - Full-stack e-learning platform with AI features (TypeScript, Node.js, Express MVC, PostgreSQL, AWS S3): Google OAuth and JWT role authorization, normalized schema design, S3 file uploads, and transactional email.
- **MagnetFlow** - BitTorrent client in Go: parsed Bencoded metadata, verified piece integrity with SHA-1, managed peer handshakes, and implemented concurrent piece exchange across the swarm.
- **Bocker** - Container runtime from scratch in Go: user, PID, UTS, mount, and network namespaces plus cgroups to isolate processes, filesystems, and network stacks per container.

### COMPETITIVE PROGRAMMING

- 3,200+ problems solved / Codeforces Expert / CodeChef 5-star / LeetCode Knight.
- Meta Hacker Cup 2023 - Round 2, global top 1,700 / ACPC 2022 - 20th among Egyptian teams / ECPC Qualifications 2022 - 1st at Mansoura University, 4th of over 120 teams / Google Hash Code 2022 - 44,544 points.

### EDUCATION

#### B.Sc. in Computer Engineering - Mansoura University

09/2019 - 07/2024

Mansoura, Egypt / GPA 3.0 / 4.0