Mohammad Munaf

Bengaluru, India | [redacted] | [redacted] | LinkedIn | GitHub

Professional Summary

- **Backend Engineer** who designs and ships server-side systems end to end – **REST and real-time APIs**, relational data modeling, authentication and authorization, background job processing, and **LLM-powered services**. Language-flexible across **Java (Spring Boot)** and **Node.js (Express)**, working with PostgreSQL, Redis, and MongoDB, containerized with Docker and deployed on AWS. Built production-style **RAG pipelines** with vector search and streamed LLM responses, and shipped a campus placement platform now in pilot with real users. Solid grounding in distributed systems, microservices patterns, and DSA. AWS Student Builder Campus Leader (SBCL).

Technical Skills

Languages: Java, JavaScript, TypeScript, Python, C++, SQL
Backend Frameworks: Spring Boot, Spring WebFlux, Node.js, Express.js, Prisma, Spring Data JPA / Hibernate
APIs & Architecture: RESTful API Design, WebSockets (Socket.IO), Server-Sent Events, Microservices, API Gateway, Circuit Breaker, Async / Background Jobs, Message Queues (RabbitMQ/Kafka)
Security: JWT, OAuth2, Role-Based Access Control (RBAC), Encryption at Rest, Spring Security
Databases & Caching: PostgreSQL, MySQL, MongoDB, Redis, PGVector (Vector Search)
GenAI: RAG, Vector Embeddings, Semantic Search, LLM APIs (OpenAI, Gemini, Mistral), Spring AI, Prompt Engineering
DevOps & Observability: Docker, Docker Compose, AWS (EC2), Linux, Vercel, Actuator, Distributed Tracing (Zipkin)
Tools: Git, GitHub, Postman, Swagger / OpenAPI, Maven, npm, IntelliJ IDEA, VS Code
CS Fundamentals: Data Structures & Algorithms, OOP, DBMS, Operating Systems, Computer Networks, Distributed Systems
Currently Learning: System Design, CI/CD, LangChain, LangGraph, AI Agents

Projects

DevPilot – AI Codebase Assistant (RAG) | *PostgreSQL, PGVector, OpenAI, SSE, OAuth2, Spring Boot* 2026 – Present

- Currently building a backend service that answers natural-language questions about a user's GitHub repositories with file-level citations. Designed an **asynchronous ingestion pipeline** on a bounded worker pool that chunks source code and batch-writes embeddings to **PostgreSQL + PGVector**, with job status tracking and failure handling.
- Built tenant-scoped **vector search** and **token-by-token LLM streaming over SSE**, with GitHub **OAuth2** login and third-party access tokens encrypted at rest.

Setu – Campus Placement Platform | *PostgreSQL, REST, WebSockets, JWT, Docker, AWS EC2, Spring Boot* 2025 – Prese

- Designed and built the backend for a multi-role (Student, Recruiter, Admin, Super Admin) campus placement platform (https://setuioi.vercel.app/) with stateless **JWT auth and RBAC**. Modeled **70+ entities** in a PostgreSQL relational schema and exposed it through **13+ REST resource controllers** covering job postings, eligibility-gated applications, assessments, and interview scheduling.
- Added a **WebSocket (Socket.IO) real-time layer**, integrated external services (Gemini / Mistral LLMs, Judge0 code execution) through non-blocking HTTP clients, and containerized the API with multi-stage Docker builds deployed to **AWS EC2**; documented with OpenAPI / Swagger.
- Currently in a **pilot run with PW IOI (20 students onboarded)** ahead of a discussion on wider placement-team adoption.

Education

Indian Institute of Technology Madras — Chennai, India
Bachelor of Science in Data Science and Applications CGPA: 7.00 — *Expected 2028*

PW Institute of Innovation — Bengaluru, India
Skill Development Programme in Computer Science & AI — *Expected 2028*

Achievements

- **Tech Club President** – Leading the technical club at PW Institute of Innovation, driving DSA workshops, coding contests, and technical events across the student community.
- **AWS Student Builder Campus Leader (SBCL)** – Promoting AWS technologies, community engagement, and learning initiatives for students on campus.
- **Competitive Programming** – Solved 350+ Data Structures & Algorithms problems and 200+ contest questions across LeetCode and Codeforces.