Rushabh Gala

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Professional Summary

Full-stack software engineer building distributed, event-driven systems and production LLM evaluation workflows on AWS. Designed 9 microservices and a six-stage SQS grading pipeline with 91% test coverage across 5,000+ tests; delivers React/Next.js interfaces and .NET/Python services across the assessment lifecycle, from submission to results.

Professional Experience

Software Engineer Jun 2025 – Present
Zeus Learning, Mumbai

- **Owned 9 distributed microservices end-to-end** for automated exam evaluation, including REST APIs, data models, asynchronous workflows, and fault-tolerant processing pipelines for a 4-tenant assessment platform.
- **Automated grading** with a six-stage pipeline on AWS SQS covering validation, prompt-injection detection, PII detection, LLM evaluation, output sanitization, and result delivery.
- **Engineered resilient SQS consumers** with retries, exponential backoff, visibility timeouts, FIFO queues, and dead-letter queues to handle LLM failures, malformed messages, rate limits, and partial processing.
- **Modeled DynamoDB tables** using partition keys, sort keys, GSIs, conditional writes, and batch operations; enforced tenant isolation and role-based authorization through JWT claims and Amazon Cognito.
- **Built REST APIs** with ASP.NET Core and Python; designed multi-stage LLM workflows using OpenAI APIs with structured outputs and guardrails, achieving 8–11-second end-to-end latency including LLM and data processing.
- **Prototyped RAG pipelines** with Pinecone and pgvector for context-aware grading; implemented dynamic prompt templates for evaluation workflows, improving grading consistency.
- **Delivered React/Next.js interfaces** and 5 Vite-based React micro-frontends for independent deployment.
- **Deployed services** on AWS EC2 with load balancing and auto-scaling to handle variable traffic; diagnosed production issues using CloudWatch and request correlation IDs.
- **Achieved 91% coverage** with 5,000+ unit, integration, and functional tests using xUnit, MSTest, Moq, and pytest; contributed to GitLab CI/CD, SonarQube, and security scans.

Open Source

Google Summer of Code Contributor – Apache NuttX RTOS May 2024 – Aug 2024
The Apache Software Foundation

- **Authored 5 merged upstream PRs** adding 10+ Rust modules to Apache NuttX, improving runtime efficiency and system-level performance while preserving memory safety in low-level interfaces.
- **Implemented memory-safe Rust/C interoperability layers** and POSIX-compliant APIs to improve portability on embedded platforms and reduce unsafe code in system components.
- **Diagnosed and resolved** 5+ cross-compilation and toolchain issues on 3 RISC-V platforms, contributing fixes through upstream review to ensure reproducible builds.

Projects & Research

PredictTrend – Time-Series Forecasting | Python, Neural Networks, Jupyter, NSE API

- **Developed a time-series forecasting pipeline** using neural networks on 25+ years of NSE data for about 1,200 stocks, with feature engineering, validation, and model-size reduction to improve generalization.

InCharge – EV Charging Station Finder | Android, Java, Google Maps API, Firebase

- **Built an Android app** locating 50+ EV charging stations in Pune with Google Maps and Google sign-in; optimized data retrieval by 20%, cut search time by 15%, and refined the UX with 10 peer reviewers.

IEEE ICAST 2023 – Learning Feedback System Dec 2023

- **Devised a statistical evaluation system** that reduced 50+ academic metrics to 15 key indicators using correlation analysis, dimensionality reduction, and data visualization. DOI: 10.1109/ICAST59062.2023.10455045.

Education

University of Mumbai Nov 2022 – May 2025
B.Tech in Computer Science (Honors in AI & Machine Learning) CGPA: 9.21/10

Government Polytechnic Pune Aug 2019 – Oct 2022
Diploma in Computer Science & Engineering 92.47%

Technical Skills

Languages: C#, Python, TypeScript, JavaScript, Java, Go, Rust, C++, SQL
Frontend: React, Next.js, Vite, HTML5, CSS3, Angular (custom elements), Redux, Zustand
Backend: ASP.NET Core, .NET 8, Django, Flask, REST APIs, gRPC, Microservices, Event-Driven Architecture
Data: DynamoDB, PostgreSQL, MySQL, MongoDB, Redis, SQLite, Firebase
Cloud & DevOps: AWS (EC2, SQS, Lambda, CloudWatch, S3, Cognito), Docker, GitLab CI/CD
AI: OpenAI APIs, LLM evaluation, structured outputs, prompt engineering, RAG prototyping (Pinecone, pgvector)
Testing & Tools: xUnit, MSTest, Moq, pytest, unittest, SonarQube, Git, Linux, Bash, Postman, Swagger/OpenAPI