Yashwant Chowdary Yarra

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PROFESSIONAL SUMMARY

Software Engineer with 2+ years of experience building Java/Spring Boot services and REST APIs at TCS. Owned application backend redesign and downstream integrations, with experience in production debugging, Oracle SQL performance optimisation, and AWS S3 integration. Hands-on project experience building event-driven pipelines using Python, FastAPI, and GCP.

PROFESSIONAL EXPERIENCE

Systems Engineer, *Tata Consultancy Services Limited* 07/2024 – Present | Chennai

- Owned the backend redesign of a Spring Boot service, defining REST API contracts, downstream integrations, request validation, and error handling while keeping existing consumers working.
- Improved API response times by reducing database round trips and optimising Oracle SQL queries in Spring Boot services.
- Built resilient AWS S3 multipart uploads with presigned URLs, parallel chunking, retry on failed parts, and SHA-256 integrity checks.
- Performed root-cause analysis of production incidents across services and integrations using AppDynamics and application logs, and shipped fixes through Jenkins CI/CD in an Agile/Scrum team.
- Reviewed teammates' pull requests for API design, error handling, and SQL performance, and documented API contracts and integration guides for consuming teams.
- Tested services with JUnit and Postman, and upgraded vulnerable dependencies flagged by security scans.
- Built a multilingual consent verification proof of concept using Python, Faster-Whisper, text alignment, and LLM-based validation.
- Developed Angular components with TypeScript and Reactive Forms, integrating backend APIs and validating user input.

PROJECTS

Recall - AI Knowledge Assistant , *Next.js, TypeScript, Python, FastAPI, PostgreSQL, pgvector, Gemini, Google Cloud*

- Built a full-stack AI application that transforms documents and voice notes into searchable knowledge, supporting document Q&A, page-level citations, practice quizzes, and automated grading.
- Implemented retrieval-augmented generation (RAG) using vector similarity search, PostgreSQL full-text search, and reciprocal rank fusion to deliver grounded, streaming responses.
- Developed event-driven file processing with OCR, audio transcription, summarization, and embedding generation using Cloud Storage, Eventarc, and Cloud Run.
- Integrated Firebase authentication, tier-based usage limits, Cashfree payments, and a tool-calling AI agent requiring user approval before creating tasks or saving drafts.

TECHNICAL SKILLS

Languages
Java, Python, SQL, PL/SQL

Frontend
Angular, TypeScript, JavaScript, HTML5, CSS3, Reactive Forms

Cloud
AWS (S3, EC2), AWS SDK, GCP (Cloud Run, Cloud Storage, Eventarc, Vertex AI)

Methodologies
Agile, Scrum, SDLC, Code Reviews, Production Support, Root Cause Analysis, Performance Optimization

Backend
Spring Boot, Spring MVC, Spring Data JPA, Hibernate, REST APIs, Microservices, Spring Security, FastAPI

Databases
Oracle, PostgreSQL, pgvector, SQL Query Optimization

Tools & DevOps
Docker, Jenkins, Git, Maven, Postman, CI/CD, JUnit, AppDynamics

AI/ML
RAG, LLM Integration, Faster-Whisper, Vector Embeddings

EDUCATION

Bachelor of Technology in Computer Science and Engineering (AI & ML) 2020 – 2024 | India
Vignan's Foundation for Science, Technology & Research
CGPA: 8.41/10.0

CERTIFICATIONS

Claude Certified Developer
Anthropic, 2026

Google AI Professional Certificate
Google, 2026

PUBLICATIONS

Ensemble of Diverse Pre-trained Convolutional Neural Networks for Enhanced Diabetic Retinopathy Image Classification 2024
Advances in AI for Biomedical Instrumentation, Electronics and Computing, Ch. 1, CRC Press

A Deep Convolutional Neural Network Framework for Enhancing Brain Tumor Diagnosis on MRI Scans 2023
Information Dynamics and Applications 2(1), Acadlore