Abhinava Sri Surya Sai Girish Pasupuleti

Backend & Full Stack Engineer | AI Engineering

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Education

IIIT Nuzvid – *B.Tech in Computer Science and Engineering* 2024 – 2028

Coursework: Data Structures & Algorithms, Operating Systems, Computer Networks, DBMS, Software Engineering

Experience

Software Engineering Intern May 2026 – Present

AppWeave

- Implemented Collected's gamified achievements experience with **4** badge tiers across **7** categories, progress tracking, and automated awards to improve user engagement.
- Re-architected Certifico's monolithic backend into a modular service layer, reducing route-layer code by **80%** and expanding the automated test suite by **128%**.
- Migrated the marketplace's legacy E2E suite to **Playwright**, expanding automated test coverage across critical user workflows.
- Restored scraping functionality for **33%** of previously failing websites across four platforms, improving watch listing availability and status accuracy.

Projects

CodeBook – Agentic RAG Workspace GitHub | Live Demo

TypeScript, Node.js, Express, React, PostgreSQL, pgvector, Gemini, Inngest

- Engineered asynchronous ingestion for PDFs, websites, and GitHub repositories using Inngest, Tree-sitter parsing, contextual enrichment, and cached embeddings.
- Implemented hybrid retrieval using pgvector, PostgreSQL full-text search, weighted RRF, and MiniLM reranking; evaluated retrieval across **65** test cases using Recall@K and MRR.
- Built a multi-step AI agent with **9** tools for source search, code navigation, dependency analysis, and web search, featuring SSE streaming and citation validation.

HotelBooking – Distributed Reservation System GitHub

TypeScript, Node.js, MySQL, Redis, BullMQ

- Designed and developed four independently deployable microservices for authentication, hotel management, reservations, and notifications.
- Prevented double bookings under **100** concurrent booking requests using Redis distributed locks and idempotency keys; implemented asynchronous notifications with BullMQ.

Algo Backend – Distributed Online Judge GitHub

TypeScript, Node.js, MongoDB, Redis, Docker, BullMQ

- Built a **3-service** architecture for problem management, submission handling, and asynchronous code evaluation using Redis and BullMQ.
- Stress-tested **50** concurrent submissions, executing untrusted C++ and Python code in isolated Docker containers with resource limits, timeouts, and network isolation.

Achievements

- LeetCode Knight with a peak contest rating of **1900+**, ranking in the **Top 4%** globally.
- Solved **600+** data structures and algorithm problems across LeetCode and other platforms.

Technical Skills

Languages	C++, Java, TypeScript, JavaScript, Python
Backend & Systems	Node.js, Express.js, FastAPI, Flask, REST APIs, Microservices, Event-Driven Architecture, BullMQ, Inngest, Socket.IO
AI Engineering	LLM Applications, AI Agents, RAG, Hybrid Retrieval, Reranking, LLM Evaluation
Frontend	React, Next.js, Vite, Tailwind CSS, HTML, CSS
Databases & ORMs	PostgreSQL, MySQL, MongoDB, Redis, pgvector, Prisma, Sequelize, Mongoose
DevOps & Testing	Docker, AWS, Linux, Git, GitHub Actions, CI/CD, Playwright, Vitest, Supertest, Postman