Pawan Kumar

pawanandaman@gmail.com | +91 7488559485 | Bengaluru, Karnataka, India
LinkedIn | GitHub | LeetCode

PROFESSIONAL SUMMARY

Software Engineer experienced in building RESTful APIs, microservices, and distributed backend systems in Python (FastAPI, Django REST Framework). Skilled in relational and NoSQL databases, CI/CD, and automated testing, with hands-on experience building agentic tooling (LangGraph, MCP, LLM orchestration) for enterprise workflows. Strong debugging skills; experienced in cross-functional Agile teams.

EXPERIENCE

Zebra Technologies (Client via Telaverge) — Bengaluru, India
Software Engineer — March 2026 – Present

- Led end-to-end development of an LLM-powered device orchestration platform, owning the architecture, execution engine, and tool integration layer that automates hardware validation workflows.
- Architected a stateful execution agent using LangGraph, enabling deterministic reasoning, tool routing, and concurrent workflow execution through Python asyncio.
- Built a custom MCP server exposing typed tool schemas for device control, workflow execution, diagnostics, log retrieval, and Git operations, with structured validation and JSON responses.
- Implemented resilient job lifecycle management with SQLite/aiosqlite, supporting workflow recovery, state persistence, job tracking, and health monitoring for long-running pipelines.
- Integrated LiteLLM tool-calling with retries, execution safeguards, structured logging, and telemetry for production use.

Telaverge Communications — Bengaluru, India
Software Engineer – Research & Development — Aug 2024 – Present

- Built RESTful APIs with input validation and error handling for internal telecom platforms.
- Developed a Python/MongoDB marketplace platform to onboard and manage third-party applications via a standardized installation and configuration workflow.
- Diagnosed and resolved recurring production issues, including API timeouts, serialization failures, and downstream dependency bottlenecks, reducing API failures by approximately 15%.
- Enhanced an internal HTTP/2 simulator by adding programmable delay injection and dynamic plugin loading support, improving automated regression testing coverage by approximately 40%.
- Contributed to an LLM-backed log and KPI analysis platform that surfaces operational insights from telecom data.
- Built OpenSearch retrieval pipelines (context assembly, backend integration) for AI-assisted queries, adding response caching to cut latency on common queries.

PROJECTS

Issue Tracker REST API | *Python, Django, Django REST Framework, PostgreSQL, Redis, Docker*

- Developed a RESTful issue-tracking API using Django REST Framework, supporting project, issue, assignment, and comment management.
- Designed relational PostgreSQL models with foreign-key constraints; implemented DRF serializers, viewsets, filtering, pagination, and validation.
- Implemented role-based API permissions and authentication to control project- and issue-level operations.
- Added Redis caching for frequently accessed project and issue data; wrote automated API tests covering core CRUD and authorization flows.

Flaky Test Detective | *Python, FastAPI, PostgreSQL, LiteLLM, Docker*

- Built a service that ingests JUnit test reports and ranks flaky tests using a rolling pass/fail flip-rate metric computed with SQL window functions.
- Exposed REST APIs for test history, failure trends, and flakiness leaderboards, with optional LLM summaries of recurring failures; containerized with Docker Compose and tested with pytest on synthetic multi-run data.

SKILLS

Languages: Python, Java, C++
Core CS: Data Structures & Algorithms, OOP, Distributed Systems, System Design
Backend & APIs: FastAPI, Django, DRF, REST APIs, Microservices, LangGraph, LiteLLM, RAG, MCP
Databases: PostgreSQL, MongoDB, SQLite, Django ORM, Redis, OpenSearch, Vector Search
DevOps & Tools: Git, CI/CD, Docker, Linux, pytest

EDUCATION

Sister Nivedita University — Kolkata, India
Bachelor of Technology in Computer Science and Engineering | CGPA: 9.3/10 — 2020 – 2024