

Pratik Bhor

Pune India 

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Backend Engineer with over **3 years of experience** architecting **scalable REST APIs** and optimizing **high-volume data systems**. Proven track record of solving complex backend bottlenecks, including engineering a **10x improvement** in video ingestion speeds through **multi-threading** and **I/O optimization**. Expert in **Python (FastAPI, Django)**, **AWS deployments (EC2, S3)**, and containerization via **Docker**, backed by a **Master's in Computer Science**.

Skills

- **Languages:** Python, Java, SQL, JavaScript (Basic).
- **Frameworks:** Django, Django REST Framework (DRF), FastAPI, Spring Boot.
- **Databases:** MySQL (Schema Design, Joins), PostgreSQL.
- **Tools & Cloud:** Docker, AWS (EC2, S3), Git, Postman.
- **Key Concepts:** REST APIs, User Authentication (JWT), Multi-threading, ORM.
- **AI & Data Engineering:** LLM Integration (Gemini, Ollama), Pandas, LangGraph, CrewAI, RAG.

Experience

JAN 2025 – DEC 2025

Backend and Devops Consultant/Freelance, Remote, Pune

AI Automation & Client Solutions (Python, FastAPI):

- Deployed custom LLM agents (Ollama) and automated workflows (N8n) for business clients, reducing manual process time by 40%.
- Built and deployed scalable REST APIs using FastAPI and Docker on AWS EC2 to serve AI-generated content.

AI Chat Application (FastAPI):

- Created a lightweight chat interface integrating open-source LLMs (Ollama) via REST APIs.

JULY 2021 – AUGUST 2022

Software Developer/ServiceNet Technologies, Nagpur, India

CCTV Footage Management System (Python):

- Built a Python-based video ingestion tool using **OpenCV** to capture live streams.
- **Solved Performance Issues:** Addressed Python's threading limitations (GIL) by implementing multi-threading for I/O-bound tasks (uploading to S3), which improved processing speed by **10x**.
- Automated the storage of video segments to **AWS S3** and set up lifecycle policies to manage storage costs.

Dealer Platform (Django):

- Developed backend modules for a dealer management system, handling data validation and scheme logic.
- Wrote complex SQL queries and ORM lookups to generate daily reports for management.

JAN 2020 – JUNE 2021

Data Analyst /Enexion Energy, Pune, India

- **Automation:** Automated MCONSON/UDP meter data file analysis using Python and SQL, reducing manual processing time by **90%**.
- **Analytics:** Managed SQL Server databases to support high-volume energy consumption data and developed Power BI dashboards to visualize predictive analysis for key stakeholders.

Education

DEC 2023

[Master's in Computer Science](#)/Nottingham Trent University, Nottingham, United Kingdom

MAY 2019

[Bachelor of Computer Engineering](#)/Savitribai Phule Pune University, Pune, India

Certifications

MARCH 2026

[Design, Develop, and Deploy Multi-Agent Systems with CrewAI](#) /Deeplearning.AI Course Certificate

MARCH 2026

[Serverless Agentic Workflows with Amazon Bedrock](#) /Deeplearning.AI Course Certificate

MARCH 2026

[Agentic AI](#)/Deeplearning.AI Course Certificate

OCT 2018

[MTA: Programming Using Python - Certified 2018](#) /Issued by [Microsoft](#)

Projects

JAN 2026

[Autonomous AI Multimedia Pipeline & LLM Orchestrator](#) | *Python, Gemini 2.0, AWS Polly, FFmpeg, PostgreSQL*

- Engineered a **fully autonomous Python pipeline** that converts real-time news into cinematic 4K vertical videos, utilizing **Gemini 2.5 Flash** for script synthesis and JSON-schema grounding.
- Architected a **Stateful Orchestration Engine** using **PostgreSQL** to manage job lifecycles, enabling idempotent execution and automatic recovery from API failures.
- Optimized cloud resource usage by implementing a **Waterfall Model Fallback** strategy, maintaining 99.9% uptime despite aggressive Free-Tier API rate limits.
- Developed a **Semantic Deduplication Layer** using **Fuzzy Matching (rapidfuzz)** to filter redundant news entries with >90% accuracy before database ingestion.
- Solved memory-leak issues common in Python multimedia libraries by utilizing **raw FFmpeg subprocesses**, implementing programmatic "Ken Burns" pan/zoom effects and dynamic subtitle overlays via **ASS filters**.
- Integrated **AWS Polly** and **Pollinations AI** for high-fidelity audio and visual asset generation, structured via a modular, service-oriented architecture.

JUNE 2024

[Stocks Trading Platform \(Django REST Framework\)](#)

- Developed a trading application enabling users to simulate share transactions and view real-time pricing.
- Designed the database schema to handle User Wallets, Stock Inventories, and Transaction Logs ensuring data integrity.
- Containerized the application using **Docker** and deployed it on **AWS EC2** for accessibility.

NOV 2024

[Social Media Backend API \(Django\)](#)

- Built a backend for a social platform featuring User Profiles, Posts, and Follow/Unfollow mechanisms.
- Implemented **JWT Authentication** to secure user sessions and manage permissions.
- Optimized database queries using **Django ORM** to efficiently fetch related data (e.g., retrieving a user's feed with comments).