

Vipul Yadav

Applied AI Engineer | Full-Stack Developer

Profile

Developer and AI Enthusiast with a passion for leveraging modern frameworks and running local AI models on Linux. Experienced in transitioning from established enterprise patterns (.NET/C#) to fast, scalable web architectures. Currently focused on optimizing local AI workloads, agentic workflows, and high-performance Linux administration to bridge the gap between software engineering and sustainable machine learning.

Experience

- Nov **Applied AI Engineer**, *ESUOR digital LLP*, Mumbai
2025–Present
- Developing agentic AI workflows and multi-agent orchestration using **LangChain** and **LangGraph**.
 - Architecting robust **RAG pipelines** featuring structural document parsing via **PyMuPDF** and sub-second semantic retrieval using **ChromaDB**.
 - Implementing high-performance OCR solutions using **PaddleOCR**, optimized for **CPU-only inference** across Windows and Linux platforms.
 - Specializing in the deployment of local LLMs via **Ollama**, including custom resource-management fail-safes and model-switching logic for air-gapped environments.
 - Supporting multilingual text extraction for nearly all **Indian languages** with high precision.
- Sep **Data Scientist (Intern)**, *ESUOR digital LLP*, Mumbai
2025–Nov 2025
- Developed and tested data models for AI-driven applications using **Python** and machine learning libraries.
 - Gained hands-on experience in AI research and neural network foundations.
- Jun **Software Developer (Full-time & Intern)**, *ESUOR digital LLP*, Mumbai
2024–Sep 2025
- Built enterprise-level applications using C#, .NET Framework, and ASP.NET.
 - Managed database operations with PostgreSQL, MS SQL Server, Entity Framework and ADO.NET for scalable web engineering.
 - Applied software design principles and C++ for low-level performance optimization.

Featured Projects

- DocChat
- Architected and deployed a high-performance, fully offline Document Intelligence platform enabling secure natural language querying of private PDF repositories.
- Engineered a custom **RAG pipeline** using PyMuPDF for structural parsing, SentenceTransformers for embeddings, and ChromaDB for semantic search.
 - Optimized local LLM orchestration via Ollama, implementing runtime model-switching and an automated **"resource-kill" fail-safe**.
 - Built a stateful conversation handler in **ASP.NET Core** using Session-based context management for multi-turn dialogue.
 - Implemented a citation-first module extracting source references with relevance-percentage scores.
 - **Impact:** Eliminated data privacy risks by migrating workflows to a 100% air-gapped environment.
- Multilingual OCR
- Engineered a cross-platform text extraction system using **Python** and **PaddleOCR**. Optimized for CPU-only environments to support diverse hardware while generating structured JSON output.

Mumbai Metropolitan Region – Maharashtra, India

📞 +91 9696193806 • ✉ vipularyany@gmail.com • in vipularyan

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Student Manager Developed a full-stack CRUD application using **C#**, **Bootstrap**, and **jQuery**. Integrated **PostgreSQL** and a GPT-powered chatbot for automated administrative automation.

Technical Skills

Languages **Python (Advanced)**, C#, C++, JavaScript (jQuery), SQL.

AI/ML **LangChain, LangGraph, Ollama, PyMuPDF, PaddleOCR**, RAG, Vector Databases (ChromaDB), SentenceTransformers.

Web/Frameworks FastAPI, .NET Core 8 MVC, ASP.NET Core, Next.js, Bootstrap.

Tools & DB Linux Administration (Performance Tuning), PostgreSQL, ADO.NET, Git.

Awards & Certifications

2025 **Winner, TechNova 2K25** – Intercollege Technical Quiz organized by Shree L. R. Tiwari Degree College.

2022 **Medhavi Chhatra Samman Purskar** – Issued by Government of Uttar Pradesh for state-level academic excellence.

2022 **RR Kabel Scholarship** – Selected as one of 500 students nationwide for academic merit.

2025 **Green Skills & AI Foundation** – Edunet Foundation certification.

Volunteering

2024–2025 NSS Media Co-Head @ Shree L.R. Degree College – Led media outreach and campaigns.

2025–Pres. Student Volunteer @ NSS UPES – Active involvement in environmental conservation projects.