Jitendra Kumar

jitendrakumaryadav2003@gmail.com | +91 6304948909 | Portfolio | LinkedIn | GitHub

Skills

Programming & Core: Java, Python, DSA, OOPs, OS, DBMS, Probability & Statistics, Linear Algebra

AI/ML: Ensemble Models (XGBoost, LightGBM, RF), Deep Learning (CNN, LSTM, Transformer architectures), NLP, Time-Series Forecasting, RAG Systems, LangChain, Model Context Protocol (MCP), Feature Engineering.

Frameworks & Libraries: PyTorch, FastAPI, OpenCV, Docker, GitHub Actions, Prometheus, Grafana, AWS

DevOps & MLOps: CI/CD, MLflow, DVC, Kubernetes, Postman, Minikube

Projects

RAG-Powered Conversational AI with Vector Embeddings & Vector Database (GitHub) **Jul 2025**

- Devised a Formula 1 chatbot using **LangChain.js, Next.js,** and **Data Stacks** with live web-scraped data.
- Generated **vector embeddings** from **10+** data sources stored in a serverless vector database for fast search.
- Implemented a responsive chat UI with **Vercel AI SDK** and secure API key management for real-time answers.

Vehicle Insurance Data End-to-End MLOps Implementation (GitHub) **Jun 2025**

- Developed an **end-to-end ML pipeline** for vehicle insurance prediction with data ingestion to deployment.
- Orchestrated **MongoDB Atlas, Docker,** and **GitHub Actions** for modular, automated **CI/CD** workflow.
- Launched on **AWS EC2** with FastAPI for RESTful inference and **S3** for model storage.

AI-Powered Grid Load Forecasting for New-Delhi Grid (GitHub) **Feb 2025**

- Engineered an **XGBoost+LSTM** ensemble model achieving **92.5% accuracy** for electricity demand forecasting,
- Constructed a real-time **ETL pipeline** incorporating weather, holiday, urban activity, and solar data.
- Mitigated **Duck Curve effect** through solar generation forecasts, achieving **15% variance** reduction.

Player Re-Identification in Sports Footage End-to-End Computer Vision Pipeline (GitHub) **Nov 2024**

- Designed a player tracking pipeline using **YOLOv11** and **IoU-based** multi-object tracking (sports footage).
- Automated frame extraction, detection, and annotation with a single-command workflow.
- Addressed occlusions and re-entries; packaged with docs for reproducible GitHub deployment.

Achievements

- Secured Global **Rank 354th** - GeeksforGeeks Institutional Contest (among 40k+ participants)
- Advanced to **Top 30 teams** (out of 600+) in Smart India Hackathon.
- Presented research at the Global Science Conference (selected among 3k+ participants in Starters WLPGA)
- Achieved **3rd Rank** in CODE OFF DUTY Hackathon 2024 by developing an AI-powered defect detection system
- **Solved** 400+ problems across **CodeForces, LeetCode, CodingNinjas,** and **GeeksforGeeks.**

Certifications

- Machine Learning Specialization (Stanford University)| DeepLearning.ai **2025**
- Machine Learning | IIT Kharagpur **2024**
- Cloud Computing | IIT Kharagpur **2024**
- Introduction to Large Language Mode by Google cloud | Coursera **2023**

Leadership & Community Engagement

Volunteer | Aayu Health & Education Social Foundation **2024**

- **Conducted** health awareness campaigns on hygiene and nutrition, **impacting 3k+ people**.
- Collaborated with 3 local schools to **support underprivileged children** through education initiatives.

Education

Lovely Professional University **Phagwara, Punjab**

Bachelor of Technology | Computer Science & Engineering | **CGPA: 7.3** Sep 2022- Present

Arya Vidyapith School **Champaran, Bihar**

CBSE XII | **Percentage: 70%** Apr 2021