

Aditya Pratap Singh Tomar

Bachelor of Technology in Computer Science Engineering
Jabalpur Engineering College

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ABOUT

Data Scientist and MLOps Engineer with strong experience in building end-to-end, production-ready ML systems, spanning data pipelines, deep learning models (Transformers, LLMs), MLOps workflows, and scalable deployment. Experienced in AI agents, experiment tracking, and GPU-accelerated training for real-world applications.

EDUCATION

Degree/Certificate	Institute/Board	CGPA/Percentage	Year
B.Tech., CSE	Jabalpur Engineering College	8.39/10.0	Sep'23 - Apr'27
Senior Secondary	CBSE	83.4%	2023
Secondary	CBSE	93%	2021


EXPERIENCE

- CatalyzeIQ Pvt. Ltd.** Jan 2026 - Present
Lead Engineer Hybrid
 - Designing core backend services and **AI-driven workflow architecture**, collaborating with founders to define scalable systems, **automation pipelines**, and product direction in a zero-to-one startup.
- Suryavanshi Ventures Pvt. Ltd.** Aug 2025 - Sep 2025
AI Research Intern Hybrid
 - Engineered **AI-driven health-care agents** using **LangGraph**, and **LangChain**, boosting startup's growth by **15-20%**.
 - Optimized backend workflows with **FastAPI**, **SQLAlchemy** & **Poetry**, cutting API latency by **20%** and enhancing scalability.
- Priyam Innovations Pvt. Ltd.** Jun 2025 - Jul 2025
ML Intern Remote
 - Spearheaded the development of an AI-powered interview platform's MVP by engineering dynamic, context-aware question generation using GPT-3.5 based on resumes and job roles, improving question relevance by **80% accuracy**.
 - Implemented multi-modal sentiment analysis on 100+ interview transcripts and real-time candidate video using OpenCV and HuggingFace Transformers to evaluate confidence, clarity, and behavioral anomalies with **75% accuracy**.

SKILLS

- Programming Languages**: Python, Java, C, HTML, CSS
- Data Science**: Numpy, Pandas, Matplotlib, Seaborn, Scikit-Learn, TensorFlow, Keras, PyTorch
- MLOps**: MLflow, DVC, AWS, Azure, Docker, Kubernetes, Prometheus, Grafana
- GenAI and Development**: LangChain, LangGraph, Flask, FastAPI
- Tools**: Git, GitHub, Postman, Notion, Canva, Premiere-pro

MAJOR PROJECT

- ForesightX: The Future Has Signals. We Decode Them.** Dec 2025
Tools: Python, PyTorch, MLflow, DVC, Docker, Kubernetes, FastAPI, Time-Series Models, Transformers 
 - Designed and deployed an end-to-end ML system for stock market forecasting using Python, PyTorch-based deep time-series models, and feature-engineered pipelines processing **1M+ data points**.
 - Built scalable training, evaluation, and deployment workflows with **MLflow**, **Docker**, **Kubernetes**, and **Airflow**, enabling automated retraining, drift detection, and **30% faster inference latency**.

- **Deep ECG Signal Analysis: Transformer-based Classification and Anomaly Detection** *Feb 2025 - Present*
Tools: PyTorch, SciPy, NumPy, WFDB, Torch.nn, Scikit-learn, Pandas, Custom Dataset Classes [G]
- Developed a transformer-based dual-model pipeline achieving **91.3% F1 score** for ECG anomaly detection and arrhythmia classification on MIT-BIH and PTB datasets.
- Engineered a scalable architecture with custom preprocessing and multi-label supervision enabling real-time inference at **<150ms latency** per ECG segment.
- Achieved extremely strong results on benchmark datasets, with ongoing enhancements to boost generalization and robustness across diverse clinical conditions.
- **Hackathon Works and Learning Projects**
Developed different minor projects of AI, Full Stack while learning and Participating in Hackathons
- **BinSavvy – Smart Waste Management System** (*Feb '25*) Built a drone-integrated garbage detection system with backend automation and YOLO-based image recognition to streamline waste collection. [G]
- **MargDarshak-Mitr – Railway Travel Assistant** (*Feb '25*) Developed a full-featured web app enabling live coach tracking, food discovery, and trip planning to elevate the train travel experience. [G]
- **Student Lifestyle and Academic Performance Predictor** (*Nov '24*) Built an end-to-end data science pipeline to analyze student lifestyle data (2,000 records) and predict GPA & stress levels using feature engineering, preprocessing pipelines, cross-validation, and regression models (Linear Regression, Random Forest, SVR) in Python (Pandas, scikit-learn). [G]
- **Restaurant Data Analytics & Cuisine Popularity Prediction** (*Nov '24*) Built an end-to-end data science pipeline to preprocess and analyze **10,000+ rows** of global restaurant data, perform feature engineering, and predict cuisine popularity using **Random Forest** and **XGBoost**, achieving **92% accuracy**. Developed insightful visualizations with **Matplotlib** and **Seaborn** to analyze rating trends and city-wise cuisine preferences across **50+ cities worldwide**. [G]
- **Chess Game – Two-Player Board Game** (*Feb '24*) Created an interactive two-player chess game with intuitive controls and core game mechanics on the Scratch platform. [G]

ACHIEVEMENTS

- **SIH'24 Finalists** for the PS-25189.
- **Secured Rank 196** (Top 1.7) among 11,450 participants in Kaggle Playground Series S5E11.
- **Runner-up** of HackCrux, a national-level hackathon by LNMIIT Jaipur.
- **Solved 350+ DSA problems** across platforms and earned the **GFG Bag** by completing the GFG160 Challenge

COURSES AND CERTIFICATIONS

- **Getting Started with Competitive Programming**, NPTEL *May '25*
- **Natural Language Processing**, NPTEL *May '25*
- **Data Science**, INI *Dec '24*
- **CS50x** , Harvard University *Nov '24*
- **Ethical Hacking**, NPTEL *Dec '24*

POSITIONS OF RESPONSIBILITY

- **Tech-Team Lead**, MATRIX, JEC *Jun 2024 - Present*
- **Led and executed Winter-Arc month long event**, mentoring a **50+ member student team** to build the platform, run campaigns, secure sponsorships, and drive **400+ participants** through a structured, AI-powered learning ecosystem. [View](#)
- **Technical Member**, JLUG, JEC *Oct 2024 - Present*
- **Delivered a technical seminar**, for 100+ students on Data Structures & Algorithms (DSA) for student developers, while mentoring juniors and engaging a coding community. [View](#)