

# ANKUR PRATAP SINGH

+91-8318989419 | ankurpratapsingh118@gmail.com | Shahjahanpur, Uttar Pradesh, India

[linkedin.com/in/ankur-pratap-singh](https://www.linkedin.com/in/ankur-pratap-singh) | [github.com/7H-ANKUR](https://github.com/7H-ANKUR)

## SUMMARY

Data Science & AI/ML undergraduate with hands-on experience building and deploying full-stack, ML-powered applications — including a healthcare recommendation platform and a crop advisory system built for Smart India Hackathon 2025. Winner, Inverthon 2.0. Skilled in Python, Flask/FastAPI, React, SQL, and AWS, with a strong grounding in machine learning, data pipelines, and cloud-based deployment. Seeking Data Science / ML Engineering internship opportunities.

## EDUCATION

### Invertis University, Bareilly, Uttar Pradesh, India

Bachelor of Technology, Computer Science & Engineering (AI) 2024 – 2028

- Relevant Coursework: Data Structures & Algorithms, Database Management Systems, Machine Learning, Software Engineering, Operating Systems, Probability & Statistics

## TECHNICAL SKILLS

- Languages: Python, C, SQL, Bash, JavaScript
- Data Science & ML: NumPy, Pandas, Scikit-learn, XGBoost, Matplotlib, RapidMiner, Feature Engineering, Model Evaluation
- Web & Backend: Flask, FastAPI, React, Vite, REST APIs
- Databases: MySQL, SQLite, PostgreSQL (basics)
- Cloud & DevOps: AWS (Lambda, S3, API Gateway), Serverless Architecture, Git, GitHub, Linux/Unix
- Concepts: OOP, DSA, ETL Pipelines, Statistical Analysis, Agile/Scrum basics

## PROJECTS

### MedLife — Healthcare Recommendation Platform | Python, Flask, React, ML

[Live Demo](#) | [Source](#)

- Built and deployed a full-stack healthcare recommendation system mapping patient symptoms to medical specialists, with multilingual symptom mapping across 7 Indian languages.
- Designed emergency-scenario detection and routing logic, plus city-wise consultation fee datasets for Indian healthcare context.
- Engineered structured JSON/CSV data pipelines to power specialist recommendation and triage logic.

### FasalAI — Crop Advisory System (SIH25010) | React, Vite, FastAPI, Scikit-learn, TensorFlow Lite

[Live Demo](#) | [Source](#)

- Built for Smart India Hackathon (SIH25010): a crop recommendation and advisory platform for Indian farmers with a React/Vite frontend and FastAPI backend.
- Implemented RandomForestClassifier for crop recommendation and GradientBoostingRegressor for yield/price prediction, plus TFLite CNN models for crop disease detection.
- Targeted Indian state-level agricultural datasets to make recommendations regionally relevant.

### Tata Motors Sales Intelligence Platform | FastAPI, XGBoost, JavaScript, Chart.js

[Live Demo](#) | [Source](#)

- Built a full-stack sales intelligence dashboard for Tata Motors using 7 global markets' historical data (2015–2024) to forecast revenue and detect anomalies.
- Trained a Gradient Boosting Regressor (XGBoost) achieving  $R^2=0.9953$ , powering a FastAPI backend with what-if simulation, goal tracking, and segmentation endpoints.
- Completed as a capstone project in academic association with Invertis University and DUCAT School of AI.

### IPL Playing XI Predictor | Python, Pandas, SQLite, Streamlit

[Live Demo](#) | [Source](#)

- Built a strategy-aware Playing XI selection engine enforcing official IPL constraints (11 players, overseas quota, bowler/keeper minimums).

- Designed Aggressive/Balanced/Defensive selection strategies using role-based, rule-driven scoring over 2008–2025 historical player statistics.

#### **Student Performance Prediction System** | *Python, RapidMiner, Pandas, Scikit-learn*

- Built an end-to-end ML pipeline using Decision Tree and Random Forest classifiers, achieving 85%+ accuracy on 1,000+ student records.
- Reduced data noise by 30% through outlier removal and normalization; visualized results via confusion matrices and ROC curves.

#### **Serverless Task Manager API** | *AWS Lambda, API Gateway, S3, Python*

- Designed and deployed a serverless REST API for CRUD-based task management using AWS Lambda and API Gateway.
- Used S3 for persistent storage and IAM role-based access control; reduced infra cost to near-zero vs. EC2-based alternatives.

### **ACHIEVEMENTS**

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- Winner — Inverthon 2.0, Invertis University hackathon, for building a deployed, end-to-end AI solution under time constraints.
- Completed AWS Educate: Getting Started with Serverless (Amazon Web Services, 2023).
- Self-directed learner: 10+ personal projects across data science, backend systems, and automation; regular DSA practice on competitive programming platforms.

### **LANGUAGES**

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Hindi: Full Professional Proficiency | English: Professional Working Proficiency