Yash Kumar

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Education

Jaypee University of Engineering and Technology **2024 – Present**
Bachelor of Technology in Computer Science (Expected May 2028) *CGPA: 9.16*
- **Relevant Coursework:** Data Structures and Algorithms, Object Oriented Programming, DBMS, Machine Learning

Projects

AQI Prediction (XGB-LSTM Hybrid) | *Python, TensorFlow, XGBoost, Scikit-learn, Pandas* **February 2026**
- Architected a dual-stage Hybrid Residual Learning model for AQI prediction, combining XGBoost for multi-pollutant correlation modeling and LSTM for temporal error correction.
- Developed a Corrector mechanism using a LSTM to learn from 7-day look-back windows of residual errors, resulting in an 11.5% reduction in RMSE.
- Made a high performance pipeline to process chemical features from the Delhi's dataset, focusing on predicting volatility during Severe pollution.

Trader Behavior Insights vs. Market Sentiment | *Python, Scikit-learn, Streamlit, Plotly, Pandas* **February 2026**
- Built a data pipeline to aggregate 211,000+ high-frequency trades from the Hyperliquid exchange, correlating trader activity with Bitcoin Fear & Greed Index.
- Implemented K-Means Clustering to mathematically segment traders into distinct behavioral groups(Scalpers, Whales, Retail), identifying a 50.7% win rate for the most profitable segment.
- Deployed an interactive Streamlit dashboard for easier analysis.

Samriddhi: Credit Scoring Automation | *Python, XGBoost, FastAPI, Streamlit, SHAP* **October 2025**
- Built a dual-model AI tool with an XGBoost repayment model and an income proxy estimator trained on a 261,746-household dataset.
- Designed a risk scoring algorithm using a 60:40 weighted formula (Repayment vs. Income) to classify users into distinct reliability tiers.
- Implemented SHAP to provide model interpretability, offering transparent insights into individual credit score factors.

Maanova: Mental Health Platform | *TypeScript, React, Firebase, Groq LLM API, Next.js* **September 2025**
- Built a three-tier ecosystem (Student, Admin, and Landing platforms) providing secure, anonymous mental health support for university environments.
- Integrated an AI chatbot via Groq LLM to provide 24/7 student assistance and generate anonymized wellness trend reports for institutional administrators.
- Engineered a secure Firebase-backed Role-Based Access Control (RBAC) system to manage counselor appointments, anonymous forum moderation, and crisis tracking.

Technical Skills

Languages: Python, C, C++, Java, JavaScript, HTML/CSS, MySQL
Machine Learning: XGBoost, LSTM, Scikit-learn, K-Means Clustering, SHAP, Feature Engineering
Web Development: React, Next.js, Node.js, FastAPI, Streamlit, Firebase, Tailwind CSS
Tools: Git, GitHub, VS Code, Vercel, Firebase Firestore

Honors & Awards

Winner, HACTRON2025 Hackathon: Secured 1st place as Team Leader for mental health platform project.

CodeChef Contest Rating: 1517 (Current Peak)

Leadership Experience

Code Conquerors **April 2025 – Present**
Coordinator *JUET*
- Led the planning and execution of monthly coding contests, engaging 50+ students across multiple academic years.
- Mentored juniors in Java, C++, and Python, improving campus-wide performance in competitive programming and hackathons.