Sayan Paul

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Kolkata, West Bengal, India

Professional Summary

Electronics & Communication Engineering student with self-taught expertise in Data Science and Machine Learning. Combines strong fundamentals in signal processing and systems with practical ML skills to build intelligent, data-driven solutions. Independently developed full-stack capabilities in Python, predictive modeling, and deployment through 500+ hours of self-study while maintaining academic performance. Passionate about bridging hardware and software to create production-grade ML applications with real-world impact.

Education

Bachelor of Technology in Electronics & Communication Engineering Expected 2028
Maulana Abul Kalam Azad University of Technology (MAKAUT) *Kolkata, West Bengal*

- CGPA: 7.49/10.0 — Coursework: Signal Processing, Circuits, Electromagnetics, Communication Systems
- **Self-Taught Data Science Specialization**: Independently acquired Python, Machine Learning, and deployment expertise outside core ECE curriculum through online courses, self-study, and project-based learning
- Active member of JIS Debate & Literacy Club; organized college-level Smart India Hackathon internal round
- Campus Ambassador for KSHITIJ program; led multiple student-driven technical initiatives

Technical Skills

Programming Languages: Python, C, SQL, HTML, CSS, JavaScript
Data Science & ML: Pandas, NumPy, Scikit-learn, Matplotlib, Seaborn, Plotly, Statistical Analysis
Tools & Platforms: Git, GitHub, MySQL, SQLite, Flask, VS Code, Jupyter Notebook
Domain Knowledge: Signal Processing, Systems Analysis, Electronics Fundamentals, Cross-Domain Problem Solving
Core Competencies: Machine Learning Pipelines, Predictive Modeling, Data Visualization, Feature Engineering, Model Deployment, API Integration, Database Design, Self-Directed Learning, Team Leadership

Projects

IPL Prediction Engine | *Python, Flask, Scikit-learn, Pandas, TailwindCSS* GitHub

- Developed a production-grade ML web app predicting IPL match outcomes and simulating full tournament results using historical ball-by-ball data and Logistic Regression models
- Engineered features from delivery-level stats including run rate phases, wicket patterns, and venue-based performance metrics to improve prediction accuracy
- Built modular prediction pipeline separating model training from inference, enabling real-time match predictions through Flask REST API with clean UI pages for match results, schedule predictions, and tournament simulation
- Delivered dynamic standings updates and playoff predictions, demonstrating end-to-end ML workflow from raw data to production web deployment

Weather Forecast Predictor for Kolkata | *Python, Random Forest, Plotly, OpenWeatherMap API* GitHub

- Built a 7-day weather forecasting system predicting maximum temperature, minimum temperature, and humidity using Random Forest Regression on historical weather patterns
- Integrated real-time data via OpenWeatherMap API for fresh predictions; implemented secure API key management using environment variables and python-dotenv
- Designed production-grade ML pipeline with separate training and prediction scripts; serialized models using Joblib for efficient deployment
- Created interactive Plotly visualizations for multi-variable forecast presentation, improving interpretability over traditional single-value forecasts

Command-Line Banking System | *Python, SQLite, OOP, SHA-256 Hashing* GitHub

- Engineered a secure banking management system featuring atomic transactions, PIN authentication using SHA-256 hashing, and persistent SQLite database storage
- Implemented object-oriented design principles ensuring modularity and scalability across account management, transaction processing, and administrative dashboards
- Developed comprehensive transaction logging system with deposit, withdrawal, and transfer capabilities; built administrative analytics summarizing branch performance and total fund management

Certifications & Achievements

3rd Place, College-Level Hackathon — Demonstrated problem-solving and rapid prototyping skills
Data Science with Python Certification, 3-Month Intensive Program — Led project teams twice during course
Generative AI Workshop, Upskill (8 Hours) — Gained foundational knowledge in LLMs and prompt engineering
Hackathon Participation: Multiple national and international hackathons showcasing innovation and collaboration

Leadership & Extracurricular Activities

Team Leadership: Led two project teams during 3-month Data Science course, coordinating deliverables and ensuring on-time completion

Event Management: Hosted multiple college events including Smart India Hackathon internal rounds, club openings, and technical workshops

Campus Ambassador: Active KSHITIJ program representative driving student engagement in technical activities

Languages: Fluent in English, Bengali, and Hindi — **Interests**: Competitive chess player, data science enthusiast