

SAHIL LAL

IEM, Kolkata, West Bengal

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[Portfolio](#)

PROFESSIONAL SUMMARY

I am an enthusiastic Electronics and Communication Engineering student with expertise in Python, Machine Learning, and Full-Stack Development. Through hands-on projects like AI-powered stock prediction and coding assistants, I have developed strong analytical and problem-solving skills. With internship experience in research and web development, I am eager to grow into a Data Scientist and AI Specialist, building innovative, data-driven solutions that create real-world impact.

EDUCATION

Institute of Engineering and Management Kolkata

Bachelor of Technology in Electronics and Communication Engineering

2023-2027

CGPA: 8.76 (upto 2nd Year)

SKILLS

- **Programming:** Python, JAVA, C, C++, SQL
- **Core CS:** Data Structures & Algorithms, OOP, Time & Space Complexity, Problem Solving
- **Backend:** Flask, REST APIs, Node.js, Express.js
- **Frontend:** HTML5, CSS3, JavaScript
- **Data Analysis:** Pandas, NumPy, Exploratory Data Analysis (EDA), Matplotlib, Seaborn, Plotly, MS Excel, Power BI
- **Machine Learning:** Linear Regression, Logistic Regression, Decision Trees, XGBoost, Gradient Boosting, Random Forest
- **Model Evaluation:** ROC-AUC, Stratified Train-Test Split, Cross-Validation, Confusion Matrix, RMSE, MAPE, R²
- **Data Techniques:** Feature Engineering, Time-Series Processing, Churn Driver Analysis
- **Deployment:** Streamlit, Flask, Render
- **Tools:** Git, Github, MySQL, MS SQL, Jupyter Notebook, VS Code, AWS

PROJECTS

1. NeuralNudge – Explainable Customer Churn Intelligence Platform [Link](#)

- Developed churn prediction system using XGBoost on telecom dataset with 20+ behavioral and contractual features.
- Achieved 79% classification accuracy using stratified validation and hyperparameter tuning.
- Performed feature engineering and EDA to identify key churn drivers.
- Designed interactive dashboard explaining why individual customers are likely to churn.
- Built prescriptive analytics layer generating actionable retention strategies.
- Integrated revenue impact modeling to evaluate cost-benefit of retention actions.
- Deployed real-time business dashboard using Streamlit for stakeholder adoption.

2. PropensAI – Customer Loan Propensity Prediction System [Link](#)

- Built classification model on 5,000+ banking records to predict loan acceptance probability.
- Compared multiple ML algorithms; Gradient Boosting achieved 0.9991 ROC-AUC on held-out validation set.
- Applied feature engineering, model tuning, and cross-validation.
- Developed real-time customer scoring interface using Streamlit.
- Demonstrated measurable improvement in targeted marketing effectiveness.

3. Stockify – The Smart Stock Predictor [Link](#)

- Developed stock price forecasting system using Linear Regression and Random Forest.
- Engineered time-series features from Yahoo Finance data.
- Achieved R² of 0.805, MAPE of 1.08%, and RMSE of \$4.00 (AAPL validation set).
- Conducted comparative evaluation across multiple stock tickers to assess generalizability.
- Deployed Flask backend serving real-time predictions.

4. DevMate AI – Your AI Powered Coding Companion [Link](#)

- Developed multi-language code execution system with AI-based explanation and optimization features.
- Designed backend processing pipeline for dynamic code execution.
- Implemented scalable full-stack architecture with responsive UI.

5. SmartDocs – Convert & Compress Files with Ease [Link](#)

- Created to provide a simple, secure way to convert and compress documents without compromising your privacy. Unlike other online tools, SmartDocs processes all files directly in your browser - your documents never leave your device.

WORK EXPERIENCE

IEM IEDC

Student Intern

- Worked as a junior Researcher and did a research on Charm Quarks

Oct, 2023 - Feb, 2024

Vidhyashala

Web Development Intern

- Worked as a Full-Stack Developer, and assisted in API integration and debugging.

May, 2024 - Aug, 2024

CERTIFICATES

- Microsoft Introduction to Machine Learning. [Link](#)
- Introduction to AI Concepts. [Link](#)
- Getting started with Machine Learning with Azure. [Link](#)
- MS SQL Certification Training [Link](#)
- Full-stack Web Development [Link](#)

CO-CURRICULAR ACTIVITIES

1. Co-Organiser at Google Developer Groups on Campus' IEM

Sept, 2023 - Present

- Serving as Co-Organiser at GDG on Campus, IEM, actively contributing to community growth and looking forward to collaborating on impactful workshops, hackathons, and technical events.

2. Event Management Lead at IEM DOMINANTS CUP 2024

- Worked as the management head of annual basketball tournament of Institute of Engineering and Management.