



Utthan Singh Roy

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Online BSc (Hons.) - Data Science and AI
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EDUCATION

Degree Discipline	Institute/Board	CGPA/Percentage	Year
BSc (Hons.) Data Science and AI	Indian Institute of Technology, Guwahati	8.24 (Current)	2023-Present
B.Tech Electrical Engineering	Madan Mohan Malaviya University of Technology, Gorakhpur	8.36 (Current)	2023-Present
Senior Secondary	CBSE Board, St. Joseph's School, Shaktinagar	94.5%	2021
Secondary	CBSE Board, St. Joseph's School, Shaktinagar	93.8%	2019

PROJECTS

- AI-Powered Market Regime Shift Classifier** Feb. 2026 - Jun. 2026
Python, XGBoost, FinBERT, Streamlit, GitHub Actions, SQLite Github
 - Designed a market regime detection system combining quantitative indicators and FinBERT sentiment analysis to forecast systemic stress probabilities.
 - Engineered a data pipeline processing 41 hybrid features into a cost-sensitive XGBoost ensemble, achieving an ROC-AUC of 0.97 and 88.9% recall.
 - Built a real-time inference dashboard using Streamlit, orchestrated via GitHub Actions for automated feature engineering and deployment.
- Automated Sustainable Portfolio Optimizer** Oct. 2025 - Jan. 2026
Python, XGBoost, NSGA-II, GitHub Actions, Streamlit, Pandas Github
 - Architected a portfolio optimization framework balancing capital appreciation, tail risk (CVaR), and Environmental, Social, and Governance (ESG) mandates.
 - Implemented the NSGA-II evolutionary algorithm alongside an XGBoost classifier to dynamically optimize asset weights and forecast 30-day Nifty 50 directionality.
 - Automated daily data scraping, model retraining, and deployment to an interactive dashboard through a zero-touch GitHub Actions DevOps pipeline.
 - Reduced maximum portfolio drawdown to 11.5% and increased the average ESG score to 76.5 in historical back-testing (2021-2025).

TECHNICAL SKILLS

- Programming:** Python, Java, C, R, SQL
- AI & Machine Learning:** Pandas, TensorFlow, Scikit-Learn, XGBoost, NSGA-II, FinBERT, SHAP, TA-Lib
- Tools & Architecture:** GitHub Actions, Streamlit, Git, SQLite, API Integration

CERTIFICATIONS

- Explainable AI (XAI) Specialization**, Coursera (Duke University) 2026
- AI in Healthcare Specialization**, Coursera (Stanford University) 2026

KEY COURSES TAKEN

- Computer Science & AI:** Data Structures, Algorithm Design & Analysis, Deep Learning for Computer Vision, Hardware-Aware Deep Learning
- Mathematics & Analytics:** Linear Algebra, Optimization, Statistical Inferencing, Time Series Analysis
- Systems & Engineering:** Control System Engineering, Digital Control System, Microprocessors

POSITIONS OF RESPONSIBILITY

- Volunteer**, AI Confluence, IIT Guwahati 2024

ACHIEVEMENTS

- Qualified GATE 2026**, Data Science and Artificial Intelligence (DA) 2026