

RAHUL SINGH



ACADEMIC QUALIFICATIONS

Year	Degree /Board	University /Institution	%/CGPA
2025*	Post Graduate Diploma in Business Analytics	IIM Calcutta, IIT Kharagpur, ISI Kolkata	-
2019	B.Tech Mechanical Engineering	NIT Kurukshetra	8.44/10
2014	CLASS XII	St. Michael's Sr Sec School	90.8 %
2012	CLASS X	Good Luck Sec Pub School	8.6/10

KEY SKILLS/TOOLS Regression Models, ML, NLP, CNN, Equity Derivatives, Predictive Modeling, Strategic Planning, Power BI

WORK EXPERIENCE (47 Months)

Bharat Aluminium Company Ltd		Assistant Manager	Korba, Chhatisgarh (Jul '19 - Jun '23)
Responsibilities & Deliverables	<ul style="list-style-type: none">Conducted Time series analysis of furnace anode heating to identify outliers and correlated heating cycles.Designed PowerBI dashboards for KPIs: Production, Availability, Target, HFO & Coke consumption, First Aid.Implemented SAP to streamline m2 notifications, facilitated AO audits, drove 28% surge in FY'22 AO score		
Process Enhancement	<ul style="list-style-type: none">Implemented RCA with a fishbone diagram to resolve popup pusher failures, reducing downtime by 25%Led Kaizen with refractory, anchored peep hole ring, filled insulated mortar in sidewall; TPR temp ↑ by 23%		
Recognition	<ul style="list-style-type: none">Realised annual savings of 1 crore INR by optimizing specific HFO consumption from 52L/MT to 44L/MT.Reduced the baked anode rejection rate from 1.9% to 1.1% in FY23, yielding annual savings of INR 10 lac.Recognized with the "Utkrishta Utpadana" award for achieving highest production levels over six-month.		
Collaboration & Leadership	<ul style="list-style-type: none">Spearheaded and enriched the skill sets for a team of 100+ with ZERO injuries in over 400,000 man-hours.Implemented Dream Run Project using DMAIC tech, boosted employee motivation; ↑ sed efficiency by 20%		

Awards & Recognitions

Achievement	<ul style="list-style-type: none">Recognized as top 1% quality contributor in ML, earned the LinkedIn Top Voice Machine Learning badge.
Case Competition	<ul style="list-style-type: none">3rd among 350+ teams in "Intelligent Transport System" in Sustain 3.0 hosted by TRBS society of IIM-A.
Academic	<ul style="list-style-type: none">Ranked in the Top 20 percentile of academic achievers in the 2019 mechanical batch at NIT Kurukshetra.Aced the contentious XAT '23 Decision Making Section with 98.16 %ile, outperforming 96k+ candidates.

ACADEMIC PROJECTS

Airbnb Price Prediction (Regression)	<ul style="list-style-type: none">Predicted listing price for 75K+ Airbnb properties (26 features) with linear and poly. regression models.Treated outliers, tackled multicollinearity (via VIF & backward selection); Applied Ridge regularization.Analysed residuals (KS & QQ plot) Built DT, RF & XGB regressor; ↑ R2 by 23% to 0.75 over baseline model.
Renewable Energy Demand Forecast (Time Series)	<ul style="list-style-type: none">Forecasted monthly demand of renewable energy for next 8 months using past 23 years data (2001-2023)Log transformed; checked stationarity using ADF; order using ACF-PACF plots & Ljung-Box for residuals.Achieved MAPE of 0.63% and RMSE of 0.05 using auto ARIMA to refine SARIMA model with the lowest AIC
Brand Positioning Through Perceptual Map (NLP)	<ul style="list-style-type: none">Created Perceptual Map of Hotel chains using OpenAI embeddings, BERTopic and LDA from 12k+ reviews.Selected no. of topics by coherence score & Employed LR to describe thematic patterns across hotel chains.Leveraged Multidimensional Scaling yielding actionable insights, with achieving a stress score of 0.096.
Skin Cancer Prediction (CNN)	<ul style="list-style-type: none">Engineered CNN model for multiclass skin cancer classification across seven categories using 11k images.Achieved 67% accuracy by leveraging transfer learning with ResNet50, VGG16, and a custom CNN model.

ADDITIONAL PROJECTS

Chatbot Assistant- RAG (LLM)	<ul style="list-style-type: none">Created a Chatbot to answer based on the input pdfs. Used Langchain to create a prompt template for LLM.Utilized Pypdf to read PDF data; generated embeddings with transformer & stored in VectorDB-PineConeRetrieved results based on cosine similarity. Generated response using Llama-2 LLM; Deployed on Flask.
Credit Card Default Prediction (Classification)	<ul style="list-style-type: none">Built a classification model to predict credit card default with 30K historical credit dataset & 24 features.Performed feature engineering; applied SMOTE; used Logistic Regression, SVM & Random Forest models.Performed hyperparameter tuning for XGBoost to increase F1 score from .77 to .86; attained AUC of 0.94.
Customer Segmentation	<ul style="list-style-type: none">Segmented 1M+ E-commerce customers using Pyspark; performed RFM Analysis; and outliers treatment.Used K-Means, Agglomerative, DBScan; identified 4 cluster with elbow plot; best Silhouette score [0.53].
Portfolio Optimisation	<ul style="list-style-type: none">Computed annual portfolio return and risk of 5 stocks (Disney, Microsoft, Amazon, Google, and Walmart).Optimized portfolio allocation by pypfopt library to achieve a Sharpe Ratio of 1.08 on the efficient frontier

EXTRACURRICULARS

SPORTS	<ul style="list-style-type: none">Secured 1st place in Basketball out of 8 teams at the 2023 IIM Calcutta Section Wars, annual sports event.Clinched 1st position in TT Men's Singles at Citus'17 and Mime at Confluence'17, held at NIT Kurukshetra.
CSR ACTIVITIES	<ul style="list-style-type: none">Invested 30+ man-hours in BALCO CSR community initiatives: Youth Mentorship at Vedanta Skill School, Project Connect's Science Mitra Green initiatives like "Lets do Ropai" and led multiple Cleanliness drives.

ELECTIVES: Financial Risk, BigData, Healthcare, Supply Chain, LPT | **INTERESTS:** Equity Trading, TT, Meditation