AWADHESH MAHTO

ACADEMIC QUALIFICATIONS

Year	Degree /Board	University /Institution	%/CGPA
2025*	Post Graduate Diploma in Business Analytics	IIM Calcutta, IIT Kharagpur, ISI Kolkata	-
2021	B.Tech Mechanical Engineering	Indian Institute of Technology Dhanbad	8.55/10
2016	CLASS XII	Little Flower House, Varanasi	92.2 %
2014	CLASS X	St. John's School, Varanasi	92.17 %

KEY SKILLS/TOOLS	Business Intelligence, Data Visualization, EDA, Python, R, SQL, Power BI, Google Data Studio, MS Excel

WORK EXPERIENCE (24 Months)

Merilytics	Senior Analyst	Hyderabad (Dec '22 - Jul '23)

Roles and Responsibilities	■ Managed a **US Healthcare provider**, offering **tailored reports** and **ad-hoc analyses** for Executive - boards ■ Collaborated with the client for **Requirement Gathering** for functions viz. Operations, Marketing, HR, RCM
Business Intelligence and Analytics	■ Analyzed source databases & legacy queries to create **stored procedures** & **views** in **SQL Server** in SSMS ■ Developed **Data models** using **DAX** in **Azure Analysis Services** on top of the Enterprise Datawarehouse ■ Created **Power BI reports** and **Paginated reports** to track KPIs of providers, patients, AR and employees

Aarti Industries Ltd	Assistant Manager	Bharuch (Aug '21 - Dec '22)

Project Management	■ Coordinated and monitored execution of **50+** Brownfield projects (MOCs) of total value worth ₹450+ Crores
Dashboarding and Reporting	■ Leveraged **Google spreadsheets** for generating reporting infrastructure for monitoring **Project Progress** ■ Developed **Dashboards** using **Google Data Studio** for project material tracking and other ad-hoc analysis
Leadership	■ Mentored 10+ Trainees, arranged 20+ KT sessions of 50+ hrs, explained 10 SOPs, illustrated field activities

AWARDS AND ACHIEVEMENTS

Certifications	■ Certified **HIPAA Business Associate** || Certified Green Belt on Lean **Six Sigma** methodology, by **KPMG**
Case Competitions	■ 1st in **Customer Segmentation** case (IMT Gzb.) || 2nd in **Employee Churn Prediction** case(Masters' Union) ■ 1st in **Recession Prediction** case (BITS Pilani) || 3rd in **Predicting Hazardous Asteroids** case (NIT Trichy) ■ 2nd in **Supply Chain Analytics** case(IIT Madras)||National Finalist in **Stock-Mgmt** (**SQL Chatbot**) case(BITS)

ACADEMIC PROJECTS

Customer segmentation (Clustering)	■ Analysed **0.5M+** transactions data of a retail store to segment customers based on their purchase behaviour ■ Performed **feature engineering** and **RFM** analysis, followed by **PCA**; Identified 3 clusters by **Elbow** Method ■ Used **K-Means**, **Agglomerative** & **DBSCAN**; Achieved **Silhouette** score of 0.23; Identified segment **personas**
Loan Amount Prediction (Regression)	■ Predicted loan amount to be disbursed to customers by training the model with **30k** records & **24** features ■ Assessed **multicollinearity**: VIF, detected outliers: **Cook's Distance**, inspected auto-correlation: **DW-Test** ■ Evaluated **Ridge, Lasso, RF, XGB** models, achieved 21% inc. in **adj. R^2** with XGB Regressor over **MLR** (base)
Ride Demand Forecasting (Time Series)	■ Forecasted next 7 days' hourly demand of rides of a US cab aggregator using three months data with **SARIMA** ■ Tested stationarity using **ADF** test; Performed **STL** decomposition; Checked **ACF**, **PACF** plots for ARIMA order ■ Selected best model based on **AIC**; Analysed residuals using Ljung box statistic; Achieved **MAPE** of 12.99%
Brain Tumour Detection (CNN)	■ Explored **5.2k** brain MRI scan images to train **CNN** based classification model for detecting tumour presence ■ Exercised **data augmentation**, used **transfer learning** (**VGG-16**), achieved **F1** 0.98 (3%↑ over custom CNN) ■ Implemented **U-Net** model to detect location of tumour; trained with **dice loss** and achieved 0.4 mean **IoU**

ADDITIONAL PROJECTS

Payment Fraud detection (Classification)	■ Developed fraud detection model on **10L** transactions; Performed data **preprocessing**, **feature engineering** ■ Handled **class imbalance** by **SMOTE**, **under-sampling**; Used **Decision Tree**, **Random Forest** and **XG Boost** ■ Using **Hyperparameter tuning** improved **AUC-ROC** by 32% & **macro F1** by 24% by RF, against baseline LR
Bank Complaint Classification (NLP)	■ Built a complaint classification model trained on **182k** complaints and **5** categories, handled class imbalance ■ Pre-processed text with **Word Lemmatizer** and employed **TF-IDF** and **Glove.6B.50D** for word embeddings ■ Trained LR, DT, RF, **BERT**, **Bi-LSTM**, **GRU**; BERT gave best accuracy of 0.88 (11%↑ over Logistic Regression)
Apparel Recommender System	■ Built **content-based** RecSys on **28k+** apparel, generated top 20 products; Vectorised images using **ResNet50** ■ Generated **BoW**, **TF-IDF**, weighted **Word2Vec**, **SBERT** title vectors; stacked title (SBERT) and image vectors ■ **Weighted sum** of image, title, brand and colour vectors gave best results with 98% avg Symmetric similarity
Q&A system (GenAI)	■ Developed **Q&A** system using **RAG** by leveraging **GPT-3.5** and **Langchain**, created interface using **streamlit** ■ Used **OpenAIEmbeddings** to generate embeddings post creating chunks, and **Pinecone** for vector storage

POSITIONS OF RESPONSIBILITY & EXTRA CURRICULARS

Social Initiatives	■ NSS Volunteer – IIT Dhanbad, organized cleanliness and tree-plantation drives, and Blood Donation Camps ■ Volunteered in distribution of Covid kits and food packets at nearby villages of Aarti, as a part of **CSR** activity

ELECTIVES : NLP, Healthcare Analytics, Comp. Finance, FRM	INTERESTS : Yoga, Travelling