Abhishek Malaviya

MSc in Computing (AI), Dublin City University
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LeetCode HackerRank Certificates Hugging Face Ready Tensor

Technical Skills

Languages: **Python, SQL**, R.
Tools & Platforms: VS Code, Google Colab, Oracle SQL, Jupyter Notebook, Git, basic AWS (S3/EC2).
AI/ML Techniques: **Supervised Learning** (Logistic Regression, Random Forest, XGBoost, LightGBM), **Unsupervised Learning** (Clustering [K-Means, K-Medoids, DBSCAN], PCA), Feature Engineering, SMOTE, **Model Evaluation** (ROC AUC, F1, Confusion Matrix), SHAP Analysis.
Deep Learning Techniques: ANN, CNN, RNN (LSTM), Adam Scheduler, ReLU, StandardScaler, EarlyStopping, ReduceLROnPlateau.
Frameworks & Libraries: NumPy, Matplotlib, Pandas, NLTK, spaCy, Scikit-learn, PyTorch.
Data Analysis & Visualization: Power BI, MS Excel, Matplotlib, Pandas, Numerical Analysis

Relevant Coursework

- DSA
- AI/ML
- Problem Solving
- Financial Analysis
- Deep Learning
- Data Visualization
- Probability and Statistics for Machine Learning

Applied Machine Learning Projects

FDA Drug Marketing Category Classifier | ***Python****, Power BI, XGBoost, SHAP* | View Project **May 2025**
- Built an FDA drug classifier using 110K+ drug records across 13 marketing categories (ANDA, NDA, BLA, etc.).
- Engineered features from drug metadata (formulation, route, labeler, ingredients) and handled class imbalance via grouping.
- Implemented XGBoost and Random Forest with SHAP & model interpretability, achieving 97%+ macro AUC.
- Used Matplotlib for data visualization of drug class volumes, grouped counts, and category drift.

Customer Satisfaction Prediction | ***Python****, XGBoost, SMOTE, NLP, SHAP* | View Project **April 2025**
- Developed a classifier to predict customer satisfaction using Brazilian e-commerce data with over 100K+ records.
- Applied XGBoost, MLP, and Logistic Regression with SMOTE for imbalance handling and ROC-AUC/F1 evaluation.
- Performed text preprocessing and NLP sentiment analysis (VADER) on review titles to enhance predictions.
- Visualized class distributions, feature importances, and ROC curves across all models.

Stock Market Volatility & Sector Dynamics | ***Python****, Power BI, Time-Series Analysis* | View Project **December 2024**
- Analyzed historical market data to study volume and ticker dynamics across 12+ sectors (Technology, Financials, etc.).
- Created visualizations for volatility, sector-wise growth, and bar/pie charts to compare average volume distributions.
- Used Power BI for interactive dashboards to analyze sector trends and year-over-year ticker changes.

AI - Driven Options Trading Bot | *Python, YFinance* | View Project **May 2024**
- Developed an automatic trading bot using Python, AI/ML, and Deep Learning Algorithms to automate trade execution, applying quantitative trading strategies and risk analysis.
- Implemented deep learning models (ANN & RNN [LSTM]) and algorithms like MACD and Bollinger Bands to generate signals, reflecting analytical and logical problem solving.
- Focused on buying and selling call/put options contracts based on predictive insights, optimizing trade execution in a fast-paced environment.
- Implemented features such as Adam Scheduler, ReLU Activation Function, StandardScaler, EarlyStopper, and Reduce LR on Plateau for improved model performance, demonstrating ambitious quantitative research.
- Performance Metrics: Mean Absolute Error (MAE), Root Mean Squared Error (RMSE), R-Squared and Adj. R-Squared

Education

Dublin City University, Ireland **August 2025**
MSc in Artificial Intelligence (On Going) *Dublin, Ireland*
University of Mumbai **May 2024**
Bachelors in Computer Engineering (CGPA: 7.95) *Mumbai, India*

Leadership / Extracurricular

Co-Head & Co-Founder, SAKEC Content Creators Club **May 2024**
Student Committee Lead *Mumbai, India*
- Led a student-driven club to promote campus culture through digital content and event coverage.
- Managed weekly operations, content strategy, and social media presence for major college events.
- Demonstrated leadership, teamwork, and communication in organizing and scaling outreach.