Chazin Brahma

Graduate

Contact

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Key skills

- **Programming:** Python, Java, SQL, R
- **Data Visualization:** Tableau, matplotlib
- **Machine Learning:** Time series forecasting, feature engineering, predictive modelling
- **Database Management:** SQL databases, data querying

Summary

MSc Computer Science graduate from the University of Birmingham, with a background in sociology and quantitative research. Proficient in Python, SQL, Java, and R, and experienced in applying data science techniques across a portfolio of projects, including financial analysis, customer segmentation, and social science research. I am committed to continuous learning through reading research papers, taking courses, and staying current with industry trends. Proven ability to leverage predictive modeling, algorithm development, and data visualization to solve complex problems.

Education

University of Birmingham (September 2022 – October 2023): MSc Computer Science (Conversion) – Grade: (2:1)
University of Kent (September 2018 – June 2021): BSc Sociology and Quantitative Research – Grade: (2:1)

Projects

Stock Market Prediction
Built a predictive model to forecast stock prices using historical data and machine learning techniques. Applied regression models, data preprocessing, and feature engineering (SMA, EMA, RSI, Bollinger Bands) to enhance prediction accuracy. Evaluated model performance using Mean Squared Error (MSE) on training and testing data.

Loan Default Prediction
Predicted loan defaults using a Decision Tree Classifier based on borrower financial and personal features. The model helps financial institutions assess default risks and make informed lending decisions, improving the loan approval process.

Bornholdt Model: Stock Market Dynamics
Applied the Bornholdt model to understand stock market behaviours through network topologies. Used Monte Carlo simulations to forecast potential market trends.

Portfolio Optimization Using Monte Carlo Simulations
Optimized portfolio strategies (Max Sharpe Ratio, Min Risk, Equal-Weighted) under Bull, Bear, and Sideways market conditions. Used Monte Carlo simulations to assess returns, risk, and Sharpe ratios.

Customer Segmentation Analysis
Segmented a bank's customer base using K-Means clustering to offer personalized services, reduce churn, and increase product offerings. Identified distinct customer groups based on financial behaviour and demographics and provided targeted business recommendations.

References

[Available upon request.]