Ram Charan Polisetti

Buffalo, New York, United States ramchara@buffalo.edu (716) 256-7258 www.linkedin.com/in/ramcharanpolisetti https://github.com/saitejapolisetti

EDUCATION

MS in Data Science, University at Buffalo | University at Buffalo | Buffalo, New York | December 2023

Statistical Data Mining, Probability, Algorithm Analysis and Design, Data Analysis, Data Visualization, Machine Learning, Deep Learning, Web Scraping, Applications of Data Science.

SKILLS

Industry Knowledge: Deep Learning, Machine Learning, Data Analysis, Natural Language Processing (NLP), ETL, Data Visualization, Image Processing, Quantitative Analysis, Pattern Recognition, Time-Series Analysis, Financial Modeling, Risk Management, Algorithmic Trading, Econometrics, Market Analysis, Bayesian Statistics, Monte Carlo Simulations, Predictive Modeling.

Programming Languages: Python (Pandas, NumPy, Scikit-learn, Keras, TensorFlow, PyTorch, QuantLib, XGBoost, SciPy, Seaborn, Plotly, Beautiful Soup, Selenium), Distributed Computing (MapReduce), R, SQL, MATLAB, C++, C.

Tools and Technologies: AWS, Docker, Snowflake, Hadoop, NoSQL databases (MongoDB), Tableau, Power BI, Git, Excel, Advanced Financial Analysis Tools.

Interpersonal Skills: Cross-functional collaboration, Stakeholder Management, Problem-Solving, Adaptability, Process Improvement, Supply Chain Optimization, Attention to Detail, Innovative.

EXPERIENCE

Transportation Specialist | Amazon Development Center | Hyderabad, IN | November 2020 - July 2022

• Orchestrated cross-departmental automation enhancements in dispatch systems, boosting scheduling accuracy by 40%, curbing carrier-related fraud by 15%, and recapturing 2.5 daily operational hours.
• Systematized onboarding for transportation operations by authoring SOPs and integrating automation, trimming acclimatization time by 30%, and reinforcing team efficiency.
• Analyzed transportation data using SQL, optimizing route efficiency, which slashed empty miles by 8% and pared down logistical expenses.
• Devised and managed real-time dashboards for logistics oversight, diminishing operational incidents by 20% and enhancing punctuality in deliveries.

PROJECTS

Uncovering Football Insights: Comprehensive Analysis of the European Soccer League with SQL | March 2023 - April 2023

• Analyzed European soccer data (2008-2016) using diverse SQL techniques (JOINs, aggregates, window functions, CASE, subqueries, CTEs), uncovering a significant relationship between the team's goals scored and league standings.
• Built reusable views and custom metrics, such as number of home goals, away goals, goal difference, and points, using partitions, subqueries, and CTEs for comprehensive season-by-season team evaluations.
• Calculated season-specific statistics (goal average, tie game percentage, team performance metrics, team performance chart) employing SQL analytic and ranking functions (AVG(), ROUND(), RANK()).

Analyzing and Forecasting Amazon Stock Prices: ARIMA and SARIMAX Modeling | September 2023 - October 2023

• Developed a SARIMAX model, achieving a 0.98 R-squared and 3.36 RMSE on test data, significantly surpassing baseline models in forecasting closing prices.
• Achieved a 24-point reduction in the Akaike Information Criterion (AIC) for the ARIMA model, enhancing forecasting accuracy.
• Employed Augmented Dickey-Fuller(ADF) tests to validate model assumptions, leading to a SARIMAX model that forecasted stock prices with a mean absolute error of 2.46.
• Conducted thorough statistical analysis, identifying a 96% correlation between opening and closing prices and addressing non-stationarity issues in closing prices.

Advanced Predictive Modeling in Equities: Deploying GRU, LSTM, and RNN for Market Analysis | October 2023 - November 2023

• Developed advanced machine learning models, including Recurrent Neural Network (RNN), Long Short-Term Memory (LSTM), and Gated Recurrent Unit (GRU) for stock price prediction.
• Formulated a feature set for next-day market trend prediction using past 60-day data, enhancing stock price prediction accuracy by 20% and achieving 85% precision with advanced RNN, LSTM, and GRU models; effectively narrowed the error margin from 20.3% to 17.2% between predicted and actual stock prices.
• Achieved the lowest RMSE loss of 0.0018 on the GRU model after extensive hyperparameter tuning, outperforming LSTM and RNN models in predictive accuracy.
• Created and utilized over 20+ diverse data visualizations, including line charts, scatter plots, and area charts with Plotly, significantly enhancing data-driven decision-making and effectively communicating predictive capabilities of advanced machine learning models.

Trading Signals: Leveraging Media Sentiment for Market Strategy Optimization | October 2023 - November 2023

• Integrated and analyzed 8 years of Yahoo Finance stock data and news headlines (2010-2018) for market analysis and trading strategy development.
• Engineered features from 120,000+ financial news headlines using NLP techniques, including TextBlob, VADER, and Neural Networks to enhance sentiment analysis.
• Achieved 97% validation accuracy in sentiment classification of financial news with a deep learning model, enhancing prediction reliability.
• Improved baseline model score from 64% to 87% using contextualized word embeddings and neural network techniques, increasing prediction accuracy and efficiency.
• Analyzed sentiment analysis-market returns correlation, achieving a 15% increase in trade profitability through strategy refinement. Led development of automated trading algorithms for a time series analysis of sentiment analysis data, resulting in a new market perception trading engine.

CERTIFICATIONS

Google Data Analytics Professional Certificate | Coursera

Docker for Beginners | Eduonix

Intro to Hadoop and MapReduce | Udacity

Segmentation and Clustering | Udacity