VISHNU TEJA SARDEE

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EDUCATION

Stony Brook University Stony Brook, NY
Master of Science in Applied Mathematics and Statistics (Operations Research) Aug 2021- May 2023
Courses Taken: Machine Learning, Probability and Statistics, Analysis of Algorithms, Stochastic Models, Simulation and Modelling.

Jawaharlal Nehru Technological University Hyderabad, India
Bachelor of Technology in Electronics and Computer Engineering Aug 2015 - May 2019
Courses Taken: Engineering Mathematics, Database Management and Systems, Web Technologies, Internet of Things, Big Data Analysis.

TECHNICAL SKILLS

- Computer Programming: Python, R, MATLAB, MySQL, Java, C/C++, Bash / UNIX command line, SAP ABAP/HANA.
- Data Analysis / Machine Learning: Pandas, NumPy, R GLM, Decision Trees, Neural Networks / RNN, SVM, PCA.
- Industry Tools: PowerBI, Tableau, MS Excel, Linux, Git, Bitbucket, Jupyter Notebook.

WORK EXPERIENCE

Research Assistant – Data Analyst March 2023 – May 2023
School of Public Health and Welfare, Stony Brook University Stony Brook, NY

- Analyzed mental health survey results of SBU graduate students to understand their help seeking behavior and support needed during the COVID-19 pandemic.
- Performed comprehensive data cleaning and exploratory analysis on a dataset of 1000+ records using R programming language.
- Developed ML models for variable selection/principal component analysis and logistic regression to determine correlation between various healthcare factors asked in the survey.

Application Development Analyst- SAP Finance and Controlling Jun 2019 – Jul 2021
Accenture Bangalore, India

- Successfully managed and maintained accurate financial/accounting records of a multinational corporation (MNC) in SAP systems, overseeing 10,000+ records with precision.
- Resolved IT service request tickets, adhering to service level agreement (SLA), and gathered stats that showed key performance indicators about team performance for internal review purposes and to ensure compliance to SLA.
- Collaborated with clients and other internal teams to solve various business issues, including system updates.
- Monitored crucial systems, transactions and facilitated system transfers (quality to production) to ensure smooth business functioning under time constraint. Raised immediate alarms upon detection of certain failures, thus reducing any potential financial losses.
- Conducted meticulous analysis and updates to cost center / profit center accounting tables, facilitating seamless coordination between actual and fiscal year planning, resulting in improved efficiency.

PROJECTS

Financial Modeling of Derivative Prices under Prof. Aaron Kim: March 2023 – Present

Black-Scholes and Heston Model for Options Pricing

- Developed a sophisticated model of Geometric Brownian Motion (GBM) and employed the Monte Carlo method to simulate stock prices, generating 100K sample paths for robust analysis and forecasting.
- Calculated long run call option prices using the simulated stock paths.
- Implemented Heston's option pricing by introducing stochastic volatility to calculate stock option prices. Compared the results with the above method and Black-Scholes model.

Stock Option Price Prediction and Parameter Calibration

- Generating parameters of the Heston model to simulate stock price movement and calculate call option prices.
- Constructing a powerful Artificial Neural Network (ANN) model to accurately forecast call prices, leveraging 20 nodes across 3 hidden layers each for enhanced predictive capabilities. Compare historical data to calibrate parameters.

Bank Loan Classification using Machine Learning: April 2023 – May 2023

- Utilized machine learning algorithms to accurately classify bank loans (approved/rejected) based on a comprehensive dataset obtained from Kaggle.
- Developed Decision Tree / Random Forrest, Support Vector Machine (SVM) and Neural Network models.
- Optimized best parameters using cross-validation to improve predictions accuracy, achieving 80-94% accuracy or precision across all models.