Abhijit Deshpande

System Analyst

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Experience

Technology Credit Union

San Jose, CA

System Analyst — *Mar 2023 – Present*

- Performed in-depth system analysis, identifying process inefficiencies, and providing strategic recommendations, resulting in a 20% productivity improvement.
- Orchestrated seamless system implementations and integration with existing systems across IT, Central Operations, and business users; achieved a 20% reduction in manual data entry and improved overall process efficiency.
- Utilized statistical analysis to identify patterns and trends in diverse customer data, enabling data-driven insights for targeted marketing strategies, resulting in a 25% increase in customer acquisition and a 10% improvement in customer retention rates.
- Managed vendors to assist on complex analytical projects. Ensured projects met departmental quality standards, and research objectives, and delivered on time, contributing to data-driven decision-making and business success.

Colsh Consultants

North Brunswick, NJ

Data Science Intern — *Sep 2022 – Mar 2023*

- Pioneered the development of a cutting-edge machine learning framework leveraging PROMIS scale data, uncovering 10+ significant risk factors associated with Opioid-based disorders, enabling targeted interventions and prevention strategies.
- Achieved 90% recall and 40% precision in identifying individuals at high risk of Opioid influence using Logistic Regression.
- Employed Logistic Regression and Random Forest algorithms for comprehensive data analysis, leading to the identification of impactful features and improved model performance.
- Led use of advanced probability-based techniques to interpret model results, and fine-tune thresholds of Logistic regression to maximize recall.

University of Texas Arlington

Arlington, TX

Research And Teaching Assistant — *Jan 2021 - April 2022*

- Engineered a state-of-the-art attention-based LSTM transformer encoder architecture for Financial Market signal forecasting, delivering performance with a 20% increase in accuracy and reducing false positives by 25%.
- Devised novel data sampling using dollar volume observations and event-based technique, yielding a significant 20% enhancement in model accuracy. Applied sequential Bootstrapping to manage overlapping events, maximizing sub-sample distinctiveness.
- Enhanced a path-based Triple Barrier methodology to label data by incorporating two horizontal barriers for profit-taking and stop-loss limits, along with a vertical barrier to determine optimal positions.
- Led the development and deployment of a state-of-the-art neural network architecture in PyTorch, using Optuna's Bayesian optimization for a training time reduction and higher prediction accuracy, exceeding expectations.

Skills

Languages	Python, SQL, SAS, C, Git, R.
Technology	Statistics, Decision Trees, Neural Networks, Linear Regression, Design of Experiments, Time Series Analysis, A/B Testing, AWS.
Libraries	Sci-kit learn, Numpy, Pandas, Matplotlib, NLTK, TensorFlow, Hugging Face, PyTorch, Optuna.
Management	Agile, Scrum, JIRA, Business Process Improvement, Documentation.

Projects

Factorial Design Study: Impact of RFID Tag and Medium on RSSI [SAS, ANOVA, A/B Testing]

- Researched main and interaction effects, compared mean differences in Received Signal Strength Indicator (RSSI) value by conducting two-factor ANOVA. Conducted a statistical study to determine the effects of the medium on RFID tags performance.
- Performed residual analysis to check model assumptions, used Variance stabilization technique to resolve the issue of heteroskedasticity and non-normality in the model. Studied main and interaction effects, compared mean differences in RSSI value by conducting two-factor ANOVA.

Sentiment Analysis using BERT Transformers [Python, PyTorch, BERT, Rest API]

- Curated a dataset of over 15k user reviews extracted from 15 productivity apps from Google Play reviews.
- Utilized NLP methods through BERT and Transformers from Hugging Face, capitalizing on pre-trained embeddings. Achieved 0.88 accuracy in sentiment classification through meticulous model fine-tuning. Deployed model through a REST API using FastAPI.

Road Accident Severity Prediction

- Executed comprehensive exploratory analysis, identifying key features within a dataset of 3.5 million US accident records by removing redundancies and applying strategic feature engineering. Applied Density-Based Clustering for effective outlier management
- Accomplished a notable 78% accuracy with the Logistic Regression algorithm, surpassing all other applied classification algorithms.

Education

University of Texas at Arlington

Arlington, TX

Master of Science in Industrial Engineering, GPA: 3.9/4.0 — *May 2022*

Shivaji University

Kolhapur, MH, India

Bachelor of Engineering in Mechanical Engineering, GPA: 3.3/4.0 — *May 2018*

Conferences

PASS: A NOVEL ELASTIC PERIODIC ACTIVATION FOR DEEP NEURAL NETWORKS