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TANUSREE DAS

Data Scientist with strong background in software development, data extraction, data manipulation and Machine Learning, with a deep understanding of models' internal architectures and practical experience in building various models, currently pursuing "Post Graduate Program in AI and ML". Seeking to leverage my technical expertise in data science.

EDUCATION

Post Graduate Program (Artificial Intelligent & Machine Learning - The McCombs School of Business, The University of Texas at Austin)
- A+ [In Progress (Mar,2025)]

B-Tech (Computer Science - West Bengal University of Technology)
- CGPA 8.12 (2010)

SKILLS

Programming Language: Python 3, Java, Oracle 12c, Oracle 11g, HTML etc.
Probability and Statistics: Probability Distribution, Hypothesis Testing, Statistical Inference, Predictive Analysis.
Machine Learning: Regression, Classification, Clustering, Hyper- parameter Tuning, Model Evaluation.
Advanced Machine Learning: Bagging, Boosting, Stacking, Time Series Forecasting, Recommender Systems, NLP.
Modeling & Data Engineering: Data Cleaning, Exploratory Data Analysis (EDA), Data Visualization, Feature Engineering, Model Selection.
Deep Learning: Neural Networks, Transformers, Generative AI, Fine Tuning, PEFT, Retrieval Augmented Generation (RAG), GAN, CNN.
Algorithms: Linear, Logistic, Lasso, Ridge, Elastic Regression, Decision Trees, Random Forests, SVM, PCA, T-SNE, LGBM, K-means etc.
Over and Under Sampling: SMOTE, Random, Tomek Links, Undersampling using K-Means Clustering etc.
Tools and Frameworks: : Pandas, NumPy, Matplotlib, Seaborn, Scikit-learn, librosa, Tensorflow, NLTK, AI Agent, Jupyter Notebook etc.

CERTIFICATES

- Generative AI with Large Language Models by AWS and DeepLearning.AI.
- Neural Networks and Deep Learning by Deep Learning.AI taught by Andrew Ng.
- Oracle Certified Associate.

LANGUAGES

- English (Expert)
- Hindi (Expert)
- Bengali (Native)

EXPERIENCE

Independent Machine Learning Practitioner using Python   June 2023 - Present

Key projects:

- LLM Powered Sentiment Analyzer: Developed a transformer based sentiment analysis tool leveraging the FinBERT model to analyze U.S. financial news articles, generating sentiment scores related to equity markets. Implemented advanced techniques including prompt engineering (InContext Learning- zero to few shots), full fine-tuning(72% accuracy), and Parameter-Efficient Fine-Tuning (PEFT) using LoRA (68% accuracy).
- Bank Churn Prediction using Deep Learning: Implemented a deep learning model, leveraging Adam and SGD optimizers. Enhanced model performance through hyper-parameter tuning, achieving an accuracy of 86.6% on unseen data.
- Audio Digit Recognition: Built a Neural Network that can look at audio files and classify them into 10 classes with 100% precision and 98% recall. The audio files are recordings of different speakers uttering a particular digit and the corresponding class to be predicted is the digit itself.
- Algorithmic Trading Bot: Designed and implemented a sophisticated algorithmic trading bot for intraday trading on equity indices based on moving average crossover.
- Collaborative and Hybrid Recommender Systems: Implemented collaborative and hybrid recommender systems to personalize movie recommendations, combining user behavior and content analysis for improved accuracy.
- Time Series Forecasting: Conducted comprehensive time series forecasting using ACF and PACF methods, enabling precise predictions and trend analysis for stock market.

Aubay Consultant at BNP Paribas (Production Support)   May 2024 - Present

- Engage in continuous improvement initiatives to enhance system efficiency and reduce downtime.
- Identifying custom software enhancements and integrations tailored to BNP Paribas's requirements.

Traveller   May 2021 - May 2023

- Took a break from my job to pursue my passion for solo travel, exploring different cultures and meeting new people.

Java/Python Developer (AVP) – JP Morgan Chase   Apr 2016 - May 2021

- Developed entire dashboard using spring boot and angular js for users to generate GL and other financial reports.
- Hackathon project utilizing Scikit-Image to understand sign language and Scikit-Learn to predict and resolve system performance issues.
- Solved performance issues in multiple reports by rewriting the logic, database performance improved more than 65%, received award for that.
- Made multiple code changes in core GL engine written in spring boot.

Database/Query Optimization (Associate) - Cognizant   Aug 2014 - Apr 2016

- Optimized many long-running database queries , resolving performance issues and earning recognition with an award for exceptional contributions.

Java/Oracle Developer - TCS   Sep 2010 - Aug 2014

- Using Java and Oracle implemented different change requests in Neotel and TCS BANCS software solution for telecom, insurance and banking.