Taruni Mallu

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Education

BITS Pilani Hyderabad Campus **Oct 2022 – May 2026**
B.E.Civil Engineering, Minor in Computing and Intelligence | 7.93/10.0 *Hyderabad, Telangana*

Experience

ProvenTech Consulting Pvt. Ltd. **May 2024 – July 2024**
Software Application Development *Hyderabad, Telangana*

- Developed a data-driven shelf life prediction model for pharmaceutical columns, reducing spoilage by 30%
- Applied Ensemble methods, AutoEDA, and Feature Selection to enhance model accuracy and insights
- Built interactive dashboards with Streamlit and streamlined deployment using Docker, cutting setup time by 75%

Projects

Nvidia Stock Sentiment Analysis & Visualization | *VADER, News API, Scikit-learn* **February 2025**

- Developed a sentiment analysis model using VADER to analyze Nvidia stock trends, identifying a 0.65 correlation between sentiment scores and price fluctuations, with positive sentiment having a stronger impact
- Built an interactive Streamlit-based front-end to visualize sentiment trends alongside stock price movements, enabling real-time analysis and data-driven insights

Text-to-Image Generation with StackGAN | *PyTorch, TensorFlow, GANs, charCNNRNN* **January 2025**

- Designed a multi-stage GAN framework to synthesize high-resolution images from text descriptions, improving image fidelity and realism
- Optimized text embeddings using char-CNN-RNN and skip-thought vectors, achieving superior performance on CUB and Oxford-102 datasets with Inception Score evaluation

Cryptocurrency Trading Strategy: Optimal Long/Short Positioning | *Python, Scikit-Learn, Keras* **December 2024**

- Developed and optimized a trading strategy using a Random Forest Classifier, fine-tuning hyperparameters with GridSearchCV to enhance predictive performance
- Backtested the strategy against actual market returns, demonstrating consistent outperformance and validating the model's effectiveness in generating profitable trading signals

Food and News Classification | *Keras, TensorFlow, CNN, NLP,Word2Vec, BERT* **November 2024**

- Engineered ResNet, InceptionV3, and Xception models for food image classification, achieving 94.8% accuracy
- Constructed NLP models with tokenization to categorize AG News and BBC articles, optimizing precision and recall

Face Mask Detection using CNN | *Python, VGG16, Deep Learning, OpenCV, Pillow* **November 2024**

- Developed a deep learning model with VGG16 to classify face mask usage, processing 10,000+ images across multiple environments and achieving an accuracy of 98.5% with real-time detection capabilities
- Leveraged OpenCV and Pillow for image pre-processing and augmentation, boosting model robustness by 20% against lighting and occlusion variations

Machine Learning with Taguchi Methods | *Machine Learning, Feature Engineering, Taguchi Methods* **October 2024**

- Applied Taguchi methods to optimize the implementation of ML algorithms in experimental setups
- Utilized Orthogonal Arrays with varying factors and levels, notably reducing the number of experiments in a chemistry lab by 70%

Relevant Coursework

- Data Structures and Algorithms
- Machine Learning
- Database Management
- Artificial Intelligence
- Operating Systems
- Object Oriented Programming

Technical Skills

Languages: Python, SQL, R
Developer Tools: VS Code, Jupyter Notebook, Google Cloud Platform, Git
Technologies/Frameworks: TensorFlow, Scikit-learn, Google Cloud, Power BI

Certifications

Introduction to Data Analytics in Google Cloud | Google Cloud | ID J4KHBWQ5EST1
Introduction to Generative AI for Software Development | DeepLearning.AI | ID S4SZVI2BPSKZ
Introduction to Statistics | Stanford University | ID LFMNJ71RRR5P