TUMBALI VENKATA VISWAS

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Experience

PowerBI Intern - Dosoft Technologies *May 2024 - June 2024*

– Developed and designed interactive dashboards and visualizations using tools like Power BI.
– Analyzed large datasets to extract actionable insights and presented findings to stakeholders.

Projects

From Raw Data to Deployment: An End-to-End ML Project

– Built a complete ML pipeline from data ingestion, cleaning, and feature engineering to model training and evaluation.
– Performing exploratory data analysis to identify patterns and insights that drive the selection of characteristics.
– Utilized **Scikit-learn** and **Pandas** for pipeline implementation, achieving reproducibility and modularity.
– Designed a clean project structure with **logging**, configuration management, and CI/CD readiness.
– CI / CD implementation using GitHub Actions with **custom AWS EC2 runners** for efficient pipeline execution alongside standard runners.

Algeria FireWatch – Real-Time Forest Fire Risk Estimator

– Developed a fire-risk prediction system using **Ridge Regression**, achieving an **R^2 score of 0.98** on the Fire Weather Index (FWI).
– Built a web interface with Flask for user interaction and deployed the application using **AWS EC2**.
– Preprocessed the dataset (scaling, cleaning, region encoding) and performed exploratory data analysis to identify feature correlations and anomalies.
– Evaluated multiple regression models (Linear, Lasso, Ridge, ElasticNet) and selected the most robust model based on performance metrics.

Predicting Used Car Prices Using Advanced ML Models

– Developed an end-to-end ML pipeline for predicting used car prices using historical vehicle features.
– Performed data cleaning, exploratory analysis, and feature engineering (**one-hot encoding, feature importance extraction**) to improve model signal.
– Trained and evaluated different types of models and selected the best models for hyperparameter tuning.
– Achieved $R^2 = 0.94$ on test data with Random Forest, outperforming other models, demonstrating effective model selection.
– Improved test accuracy and reduced prediction errors after hyperparameter tuning.

Holiday Package Purchase Prediction

– Developed a customer purchase prediction model using **Random Forest**, achieving 85% accuracy on test data.
– Performed data cleaning, missing value handling, and categorical feature encoding for model readiness.
– Conducted exploratory data analysis to uncover patterns in customer demographics and travel behavior.
– Evaluated multiple models and selected Random Forest for its robustness and consistent performance.

Skills

– Machine Learning, Deep Learning, Natural Language Processing (NLP), MLOps
– Model Deployment, API Development, Problem Solving
– Strong analytical thinking, critical problem-solving, and adaptability

Tools and Technologies

– **Data Science Tools**: Microsoft PowerBI, Numpy, Pandas, Seaborn, Matplotlib, Sklearn ,Flask
– **Programming Language**: Python, Java, C++
– **Version Control System**: Git, GitHub
– **Web Development**: HTML, CSS, JavaScript, NodeJS, ExpressJS, MERN , Flask
– **Cloud**: AWS
– **Operating System**: Linux, Ubuntu, Windows
– **DEVOPS TOOLS**: Docker, Kubernetes, Jenkins, GitHub Actions, ArgoCD

Education

Master of Technology in CSE DS. *2025 - 2027*

- Gandhi Institute of Technology and Management
- CGPA : Not Yet Completed Course

Bachelor of Technology in CSE DS. *2021 - 2025*

- Anil Neerukonda Institute of Technology and Sciences
- Affiliated to Andhra University, Visakhapatnam
- CGPA : 8.95 / 10

Intermediate - MPC *2019 - 2021*

- Tirumala Junior College, R Tallavalasa, Visakhapatnam, Andhra Pradesh
- Marks : 958 / 1000

SSC Class - X *2018 - 2019*

- SFS High School, Visakhapatnam
- CGPA : 8.8 / 10

Certifications and Achievements

- Achieved Top 5 position in a Web Design Competition Utilizing Figma .
- Introduction to IOT - NPTEL 86%
- Organized and Conducted Project Expo event 2023-24
- Lead the ISTE Orientation Program for Freshers Engaged in the Smart India Hackathon (SIH) 2023 .
- 5 Day Workshop and 24 Hour Hackathon on Amazon Web Services
- 3-Day Workshop On Block Chain Technologies and Its Industrial Applications
- 2-Day workshop on Problem Solving with Design Thinking
- Represented the University in South Zone Nationals Basketball Game in 2022,2023,2024