SATYA HARSHA SAPPA

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INTERNSHIPS:

Frontend Web Developer - [GitHub] **Chennai, India**

Algo x fusion - Disney + Clone, Responsive Web App Interface Feb 2022 – May 2022

- **Developed a static single-page web application inspired by Disney+**, showcasing featured content and interactive carousels using HTML5, CSS3, JavaScript, and jQuery.
- **Built custom UI components** including a navbar, search bar, login section, subscription CTA, and responsive video/movie cards to simulate a modern OTT interface.
- **Integrated media assets (images, preview videos, brand visuals)** and implemented scrollable carousels using DOM manipulation and jQuery to enhance user engagement.
- **Applied web development best practices** such as semantic HTML, modular CSS styling, and responsive layout design for a visually consistent and device-friendly experience.

Data Science Intern - [GitHub] **Chennai, India**

Cognibot - Echocardiogram-Based Survival Prediction using ML Feb 2023 – May 2023

- **Developed a predictive model to determine patient survival one year post–heart attack**, using echocardiogram features like wall-motion index, EPS, and fractional shortening, achieving an **AUC score of 0.82** via XGBoost.
- **Cleaned and preprocessed medical data (132 records × 12 features)** by handling missing values with median/mode strategies, removing outliers using LOF, and applying StandardScaler for feature scaling.
- Designed and compared predictive models **(Decision Tree, XGBoost)**, tuning key parameters through randomized search and validating performance using **cross-validation** to ensure accuracy and reliability.
- **Visualized insights and model performance** using boxplots, correlation heatmaps, and accuracy comparison charts to support medical interpretability and model transparency.

PROJECTS:

Machine Learning Engineer - [GitHub] **Chennai, India**

SupplySight: AI-Based Warehouse Product Prediction June 2025 – June 2025

- Developed a full-stack ML system predicting warehouse output (in tons) using Linear Regression (R^2 = 99.2%) on 25,000+ records, enabling smarter logistics and resource planning.
- Performed extensive preprocessing: **IQR-based** outlier capping, Box-Cox transformation, one-hot encoding of categorical features, and feature scaling to ensure robust model input.
- Deployed the model via a real-time **MCP + UV interface**, building CLI and web-based prediction tools using **Python, Pandas, Pickle**, and **YAML-based server configuration**.

Data Scientist - [GitHub] **Chennai, India**

Fortifying Financial Security Jan 2024 – May 2024

- **Built a fraud detection system** using **Random Forest** and **AdaBoost**, accurately identifying fraudulent transactions in a highly imbalanced dataset (**492 frauds in 284,807 records**).
- Balanced the dataset using targeted under-sampling of **normal transactions**, and prepared **training/testing** sets for effective evaluation.
- Trained and **fine-tuned** ensemble models, measuring performance through **accuracy, precision, recall, F1-score,** and **ROC AUC** with **Random Forest** showing the strongest results.
- Visualized key insights and model outputs using class distribution plots, confusion matrix heatmaps, and **ROC** curves to support **stakeholder understanding**.

TECHNICAL SKILLS:

Machine Learning & Modeling: Linear Regression, Decision Tree, Random Forest, XGBoost, AdaBoost, supervised learning, model evaluation (Precision, Recall, F1-score, AUC-ROC), cross-validation, hyperparameter tuning, class imbalance handling

Data Handling & Feature Engineering: Data cleaning, outlier removal (LOF, IQR), missing value imputation, one-hot encoding, Box-Cox transformation, feature scaling, label encoding, train/test split, feature selection

Tools & Deployment: Python, pandas, numpy, scikit-learn, xgboost, seaborn, matplotlib, MCP + UV, Pickle, Jupyter Notebook, GitHub

EDUCATION:

Sathyabama Institute of science and technology **Chennai, India**

Bachelor of Technology, Computer Science and Engineering **(GPA: 8.14)** Sep 2020 - May 2024

PUBLICATION:

Research Paper: *"Fortifying Financial Security: Unveiling Advanced Anti-Fraud Systems for Robust Safety Nets"*, presented at **ICCCAI 2024**. **[Certificate]**

CERTIFICATIONS:

Machine Learning Training, Cognibot, Certificate of Appreciation, DevTown in collaboration with Microsoft Learn