Surya Vardhan Reddy Puchalapalli

✉ surya.unf257@gmail.com — ⌨ Surya1332002 — ☎ 346-628-8609

Education

Masters in Engineering Data Science, University of Houston, - (3.63/4), **August 2023 - Present**
Bachelor of Engineering in CSE, Sathyabama University, - (8.81/10), **June 2019 - June 2023**

Experience

University of Houston   Houston, TX
Instructional Assistant - Technology Services and Support   *January 2024 - Current*

- Contributed to automating data pipelines and streamlining IT support processes, improving response times by 20% through system automation and efficient workflows, while enabling actionable insights from 100+ campus sensors via Power BI dashboards to support infrastructure decisions.
- Assisted in conducting network security audits and upgrading wireless infrastructure, enhancing security and optimizing performance across two data centers and 6,500 access points.

Projects

Gen AI Cold Email Generator - (December 2024)

- Developed an LLM-powered cold email automation tool using Llama 3.3, LangChain, ChromaDB, and Streamlit, integrating web scraping to extract job postings and automate outreach, increasing efficiency by 40%.
- Built a vector database (ChromaDB) for semantic search of relevant case studies, enabling AI-driven personalized emails that improved client engagement by 35%.

Movie Recommendation System using KNN and Association Rule Mining - (November 2024)

- Co-developed a hybrid recommendation system using KNN and Association Rule Mining for tailored movie suggestions.
- Preprocessed the MovieLens 20M dataset to 3.8M rows, optimizing it for collaborative filtering and pattern discovery.
- Built a Shiny web app in R for real-time, user-friendly movie recommendations.

Binary Image Classification System to Identify Oil Spills in Ocean Imagery - (May 2024)

- Processed a balanced dataset of 2,800 images, applying advanced augmentation techniques to enhance generalization and reduce overfitting.
- Evaluated seven models, achieving high accuracy with VGG-19 CNN and confirming dataset linear separability with linear models.
- Optimized image preprocessing for VGG-19 CNN, standardizing resolutions and ensuring scalability for satellite and drone imagery.

Research, Publications and Presentations

Fish Species Classification for Allergic People Using CNN Algorithm   February 2023
7th International Conference on Computing Methodologies and Communication (ICCMC)

Technical Skills

- **Programming Languages**: Python, R
- **Front-end & Web Frameworks**: HTML, CSS, JavaScript, ReactJs, Streamlit, Flask
- **Tools, Platforms & Other Skills**: Google Colab, Jupyter Notebook, GitHub, MS Excel, Power BI, Visual Studio Code, Prompt Engineering, Photoshop Beta AI

Certifications

- PowerBI - Linkedin - December 2024
- Oracle Cloud Infrastructure Generative AI Professional - July 2024
- Machine Learning - Cognibot - November 2021