SUJITHA RAVICHANDRAN

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https://github.com/sujims22

EDUCATION

University of Houston **August 2022 - April 2024**
Master's, Data Science *GPA: 3.95*
- **Relevant Courses:** Introduction to Data Science, Introduction to Machine Learning, Probability and Statistics, Text mining, Database Management system, Cybersecurity Data Analytics, Deep Learning, Information Visualization

Rice University **August 2023 - December 2023**
Visiting Graduate student
- **Relevant Course:** Data Science Capstone Project

National Institute of Technology Tiruchirappalli **August 2018 - August 2022**
Bachelor's, Major in Materials Science and minor in Computer science

PROFESSIONAL EXPERIENCE

MATA INVENTIVE
Data Processing, Analytics, and Data Visualization Specialist *August 2023 - Present*
- Utilized Pandas for advanced data transformation tasks, including feature engineering resulting in a significant enhancement of data quality and accuracy metrics up to 20 percent.
- Created compelling data visualizations using PHP, conveying crucial insights and trends of data.

University of Houston **Houston, TX, USA**
Graduate Research Assistant *January 2023 - July 2023*
- Generated Transformer-based language models from the Hugging Face library, fine-tuning for specialized tasks, including Verilog code generation.
- Accomplished a 65% accuracy rate for automated coding processes for Verilog code generation.
- Designed a hardware Chiplet-based system to improve the efficiency of Large Language Models (LLMs) contributing to a latency improvement of 92%.

Indian Institute of Technology Hyderabad **Hyderabad, Telangana, India**
Research Intern *July 2021 - August 2022*
- Attained fine-tuned state-of-the-art object detection models to specifically detect faces within datasets. Attained an impressive accuracy rate of 78% in detecting faces, demonstrating expertise in computer vision and model optimization.
- Detected key points on objects within images, contributing to advanced visual analysis techniques.

PROJECTS & OUTSIDE EXPERIENCE

Natural Language Processing with Disaster Tweets
- Developed a machine learning model to assess the authenticity of disaster-related tweets, with a focus on improving crisis response and management.
- Employed Natural Language Processing (NLP) techniques, including TF-IDF and Word Embeddings, combined with classification algorithms such as Logistic Regression and Deep Learning models such as LSTM, achieving an accuracy of 85.6% in tweet reliability assessment.

Classification of Internet Firewall Dataset Classification of Internet Firewall Dataset
- Lead a project to classify server attacks based on web requests, contributing to enhanced web server security by Employing ensemble models, including Random Forest, AdaBoost, and Support Vector Machines (SVM), achieving accuracy of 89% in identifying server attacks, ensuring robust web server protection.

PUBLICATIONS

- ExtractMetOnto: A Strategic domain ontology modeling approach in the field of Extractive Metallurgy, 2022 International Conference on Computer Communication and Informatics, IEEE.
- ClarifyNet: A high-pass and low-pass filtering based CNN for single image dehazing, Journal of Systems Architecture, Elsevier.
- HALO: Communication-aware Heterogeneous 2.5D System for Energy-efficient LLM Execution at Edge, IEEE Transactions on Circuits and Systems (under review)

SKILLS & INTERESTS

Languages: C/C++, Python, SQL, PHP, SAS, VBA.
Frameworks: NumPy, Pandas, Scikit-Learn, TensorFlow, PyTorch, PySpark.
Tools: Git, Oracle SQL Developer, Tableau, Power Bi, Mongo DB, SPSS, Snowflake
Platforms: Linux, Web, Windows, AWS, Google Cloud Platform, IBM Cloud, Azure