SUJITHA RAVICHANDRAN

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EDUCATION

University of Houston **August 2022 - April 2024**
Master's in Engineering 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
- **Relevant Courses:** Data Structures and Algorithms, Database Management Systems, Network Security, Operating Systems, Data Communication and Networks, Big Data Analytics.

SKILLS & INTERESTS

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

PROFESSIONAL EXPERIENCE

Data Processing, Analytics, and Data Visualization Specialist- MATA INVENTIVE, Los Angeles, CA ***August 2023 - Present***
- Collaborated with cross-functional teams to understand business requirements and extract data-driven insights for decision-making.
- Automated data transformation tasks using Python scripts, reducing manual workloads, and increasing data processing efficiency and achieved a 30% reduction in processing time, leading to faster decision-making.
- Designed and implemented data visualization dashboards using tools like Tableau and Power BI to provide real-time insights to stakeholders.
- Conducted A/B testing and statistical analysis to measure the impact of data-driven decisions on key performance indicators (KPIs). Improved KPIs by 15% through iterative testing and optimization, contributing to data-backed strategic decisions.
- Employed PHP to create compelling data visualizations that effectively conveyed essential insights and trends within machine monitoring and inventory data.

Graduate Research Assistant - UNIVERSITY OF HOUSTON, Houston, TX ***Jan 2023 - August 2023***
- Deployed and fine-tuned Transformer-based language models from the Hugging Face library for image-to-image translation tasks in the field of computer vision. Achieved a 15% improvement in translation accuracy compared to baseline models.
- Analyzed the architecture details of different Transformer models, including variations such as BERT, GPT-2, and RoBERTa, and conducted layer-by-layer analysis.
- Reduced model training time by 20% through optimization of attention mechanisms, enhancing overall efficiency.
- Extended the application of Transformer models beyond image-to-image translation to natural language tasks, this involved fine-tuning models for tasks such as text classification, sentiment analysis, and language generation.

Research Intern - Indian Institute of Technology Hyderabad, India ***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
- Led 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 an accuracy of 89% in identifying server attacks, ensuring robust web server protection.

PUBLICATIONS

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