Jashia Mitayeegiri

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Education

UNIVERSITY OF NORTH TEXAS, DENTON, TEXAS, USA **May 2024**
Masters in Artificial Intelligence (Machine Learning Concentration) **GPA: 4 / 4**
Courses: Machine Learning, Deep Learning, Natural Language Processing, Feature Engineering, Big Data, Generative AI, Prompt Engineering, LLMs.

JAWAHARLAL NEHRU TECHNOLOGICAL UNIVERSITY, HYDERABAD, INDIA **AUG 2022**
Master of Technology in Computer Science **GPA: 9.40 / 10.0**
Courses: Soft Computing, Web mining, Data Analytics, Data Science, High-Performance Computing, Mobile Application Development.

JAWAHARLAL NEHRU TECHNOLOGICAL UNIVERSITY, HYDERABAD, INDIA **AUG 2021**
Bachelor of Technology in Computer Science **GPA: 8.22 / 10.0**
Courses: Data Warehousing and Data Mining, Grid and Cloud Computing, Pattern Recognition, Design & Analysis of Algorithms

Skills

PROGRAMMING LANGUAGES: Python, Cython, Java, C, C++, MATLAB, SQL, R, Rust.
BIG DATA PROCESSING: Apache Kafka, Apache Spark, Hadoop, MongoDB, zookeeper, Azure, AWS, GCP, MySQL.
WEB TECHNOLOGIES: HTML, Servlets, JSP, CSS, XML, Json, JavaScript, Django, Streamlit.
LIBRARIES: NLTK, TensorFlow, PyTorch, JAX, PySpark, LangChain, TGI, Hugging Face, SciPy, SpaCy, Matplotlib, LangSmith, Numpy, Pandas.
CONTAINER ORCHESTRATION / VERSION CONTROLS/ TOOLKITS: Docker, Kubernetes, Git, CUDA, MLOps.

Academic Projects

REAL-TIME YOUTUBE DATA ANALYTICS USING APACHE KAFKA STREAMS

- Used Kafka streams and zookeeper to get the video data using YouTube API by initiating the Kafka producer and Amazon DynamoDB for downstream consumption and identified the top 10 video categories with the highest uploaded videos using PySpark within a window of 60 minutes
- The dashboard enables content creators to understand audience trends and engagement metrics, helping them design more compelling content for users.

RESEARCH COMPANION USING GEMINI PRO AND SERP API:

- Developed a Streamlit-based interface that empowers students/researchers to upload papers, provides LLMs knowledge, and mitigates hallucination. Implemented an advanced BERT-powered response comparison system utilizing RAG, SERP data, LangChain agents, prompt compression, and memory to deliver highly relevant answers to user queries.

IMAGE CAPTION GENERATOR AND COMPARATOR USING RNN AND WORD2VEC:

- Developed a high-performance image captioning and similarity analysis model using a merged Inception-v3 and LSTM architecture with word2vec, achieving BLEU scores of 0.91 and 0.85 and an average similarity score of 0.87. Word2vec was used to vectorize captions and measure image similarity.
- The model enables users to search for products using natural language queries based on image captions and recommends similar products based on visual analysis, improving the shopping experience

OPTIMIZATION OF RIDE-SHARING APPLICATION WITH REINFORCEMENT LEARNING:

- A Markov Decision Model with Value Iteration was implemented to optimize ride paths, resulting in efficient routes that minimize travel time and maximize driver earnings. Data visualization illustrated the model's effectiveness in maximizing driver earnings and rider satisfaction, leading to increased driver efficiency, productivity, and potential income.

Internships

RESEARCH ASSISTANT – UNIVERSITY OF NORTH TEXAS **JUNE 2024 - PRESENT**
Designing the U-NET SegFormers to enhance source localization in wireless devices, focusing on improving signal processing accuracy and enabling real-time tracking of signal sources for better communication efficiency and reliability.

MACHINE LEARNING INTERN – PREDICTIVE DATA SOLUTIONS **JULY 2021 – JAN 2022**
Worked on producing software facilitating decisive business decisions by quantifying topic similarities and dependencies using NMF topic modeling, Word Embedding, Sentence Transformers, DBSCAN, and tSNE during an internship at Predictive Data Solutions.

NLP INTERN - INDIAN SPACE RESEARCH ORGANIZATION (ISRO), INDIA **MAY 2021 – JULY 2021**
Developed three chatbots for humanoid speech technologies based on context, TF-IDF, and Word2Vec. Word2vec chatbot with a 94% accuracy and accelerated response time from 0.10 sec to 0.04 sec. Revitalized it with entity and intent extraction and abbreviations detection.

INTERN – WOMEN SAFETY WING, TELANGANA STATE POLICE **OCT 2021 – NOV 2021**
Contributed to report writing and analysis while researching state-of-the-art computer vision models for the Missing Person Monitoring Cell. Explored models to aid in solving crimes against women and children.

Publications and Articles

- J. Mitayeegiri, S. Dong, C. Qiu, Q. Yang, X. Li, Y. Huang, and H. Fan, "**Radio Map Estimation with Deep Progressive Network**," in 2024 IEEE International Conference on Multimedia Information Processing and Retrieval (MIPR), Aug 2024. 10.1109/MIPR62202.2024.00038
- Jashia, M., & Devika, S. (2021). **Securing data with blockchain and AI**. International Journal of Advanced Engineering, Management and Science (IJAEMA), 13(11), 901-905. https://doi.org/18.0002.IJAEMA.2021.V13I11.200001.01568591118