Vishnu Sai Karthik Gindi

205-861-9963 vishgind@gmail.com vishnu-sai-karthik VishnuSaiKarthikGindi

Experience

Alabama Water Institute **April 2023 – May 2024**

Graduate Research Assistant *Tuscaloosa, AL*

- Designed a data processing workflow for the National Snow Model, using Pandas, Dask, and CuDF for data extraction, cleaning, and transformations, increasing processing efficiency by 25 percent.
- Created a ML-based snow model using CNN and LSTM, improving SWE precision by 15 percent (Published)
- Developed and managed data ingestion activities for the National Water Model, utilizing multi-threading to improve speed by 3 times, and ensuring seamless integration with Google Cloud and AWS S3.

Alabama Transportation Institute **Sep. 2022 – April 2023**

Research Assistant *Tuscaloosa, AL*

- Empowered traffic safety initiatives by analyzing over 200,000 crash data records in AL, deploying a mixture of statistical and ML methodologies including Regression and decision trees.
- Employed transformer models and NLTK approaches like VADER to analyze sentiment shifts in media bias surrounding autonomous vehicles post-incidents.
- Executed real-time traffic analytics on extensive WEJO data, using Apache Spark with the help of window functions, UDFs and partitioning across nodes to obtain 10x enhancement in data processing efficiency.
- Performed data transformations in SQL Server and MS Excel for seamless data collection and analysis.

IMR Software Solutions Pvt Ltd **July 2021 – May 2022**

Data Scientist Intern *Hyderabad, India*

- Created dynamic visualizations and dashboards with Tableau and various Python Libraries to boost insights.
- Designed and implemented Spark jobs to perform various transformations using Spark Data Frames and RDDs.
- Enhanced ML models accuracy by 15 percent using advanced feature engineering techniques like Recursive Feature Elimination, Light Gradient Boosting Machines for selecting most important features that captures the insights.

Projects

Medical Record Search Engine using RAG | *Langchain, Pandas, Streamlit, Neo4j, Groq*

- Designed a RAG-based chatbot with integrated graph database and LLMs, streamlining access to patient insights for healthcare professionals..
- Improved data retrieval and analysis efficiency, supporting informed decision-making in healthcare settings.

MovieMagic: A Recommendation Engine | *Pandas, PyTorch Geometric, Graph Neural Networks*

- Engineered a hybrid recommendation system using Graph Neural Networks (GCN, GAT) and Factorization Machine, boosting prediction accuracy of user-item interactions by 5 percent.
- Enhanced multi-hop recommendation capabilities, delivering more relevant movie suggestions to users.

Customer Support Chat Assistant | *PyTorch, NLTK, NLP*

- Developed a Seq2Seq model with attention mechanisms and beam search, improving response accuracy for custom question-answer datasets.
- Currently working on enabling scalable query handling across domains (e.g., healthcare, finance), enhancing chatbot versatility and performance.

Emotify: Emotion Based Music Playlist Generator| *TensorFlow, OpenCV, PostgreSQL, Flask, Computer Vision*

- Developed a song recommender, detects users emotion from a live stream to recommend personalized playlists that adapts dynamically to their mood shifts with an accuracy of 85 percent.
- Used postgres for storage and management, utilized fine tuned VGG for emotion detection.

SmartComplete | *Pandas, NLTK, PyTorch, Flask, Google Cloud Console*

- Achieved 90 percent accuracy in next-sequence prediction by implementing bi-directional LSTM and GRU models with n-gram preprocessing.
- Deployed model using Flask on Google Cloud and Docker, ensuring scalability and flexible usage across platforms.

Education

University of Alabama **August 2022 – May 2024**

Master of Science in Computer Science *Tuscaloosa, AL*

Sri Venkateswara University **August 2017 – Sep. 2021**

Bachelor of Technology in Computer Science *Tirupati, India*

Technical Skills

Languages: Python, SQL, C, C++, Bash, HTML, CSS.
Databases: MySQL, MS SQL Server, PostgreSQL, MongoDB, Neo4j
Big Data Tools: Apache Spark, BigQuery
Data Visualization Software: Tableau, Looker Studio, Microsoft Excel
Cloud Technologies: Azure Databricks, AWS SageMaker, Google Cloud Platform
Frameworks/Libraries/Models: Pandas, CuDF, Numpy, Cupy, Dask, SciPy, SkLearn, Pytorch, TensorFlow, Neural Networks, Graph Networks, Transformers, Generative AI Models(GANs, VAEs).

Certifications

- **Azure Certified: Data Engineer Associate** by Microsoft
- **Intermediate PostgreSQL** by Coursera
- **Certified NLP and Computer Vision Program** by Analytics Vidhya
- **HackerRank Certified in SQL(Advanced)** by HackerRank
- **From Data to Insights with Google Cloud and BigQuery** by Coursera
- **Introduction to Data Science** by Simplilearn
- **Python Programming** by NPTEL India