

VISHNU SAI KARTHIK GINDI

☎ 205-861-9963

✉ vishgind@gmail.com

🌐 [vishnu-sai-karthik](https://www.linkedin.com/in/vishnu-sai-karthik)

🔗 [VishnuSaiKarthikGindi](https://github.com/VishnuSaiKarthikGindi)

📊 [Tableau](#)

Experience

Alabama Water Institute

April 2023 – May 2024

Research Assistant

Tuscaloosa, AL

- Designed a complex data 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 concurrency and asyncio to improve speed by 3x, and ensuring seamless integration with Google Cloud and AWS S3.
- Created a SWE evaluation tool, leveraging diverse metrics and algorithms in python for accurate data analysis.

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 models including Regression, decision trees and CNNs.
- Employed finetuned RoBERTa and utilized NLTK approaches like VADER to analyze sentiment shifts in media bias surrounding autonomous vehicles post-incidents.
- Executed real-time traffic analytics on streaming data, using Python and Apache Spark for various transformations, enhancing the data processing efficiency by 2x.
- Performed data manipulations in SQL Server and MS Excel for data collection and analysis.

IMR Solutions Pvt Ltd

July 2021 – May 2022

Data Scientist Intern

Hyderabad, India

- Performed EDA by creating dynamic visualizations and dashboards with Tableau and Python to boost insights.
- Designed and implemented Spark jobs to perform various transformations.
- Enhanced model accuracy by 20 percent using advanced feature engineering techniques like RFE, LGBMs for selecting most relevant features.
- Assisted senior data scientist with ML model development and evaluation using PyTorch and TensorFlow.

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 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 finetuned 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++, Bash, HTML, CSS.

Databases: SQL Server, PostgreSQL, MongoDB, Neo4j

Big Data Tools: Apache Spark, Airflow, Hive, BigQuery

Visualization Software: Tableau , Looker Studio, Microsoft Excel

Cloud and Version Control: Azure Data Factory and Databricks, AWS SageMaker, GCP, GitHub, CI/CD Pipelines, Jira

Frameworks/Libraries/Models: Pandas, CuDF, Numpy, Dask, SciPy, SkLearn, PyTorch, TensorFlow, LangChain, MLflow, Graph Neural Networks, LangGraphs, LLMs, 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