ABHINAV KAPAVARAPU

📞 786-585-6929 ✉ abhinavkapavarapu@gmail.com 🔗 linkedin.com/in/abhinav-kapavarapu 🔗 github.com/Abhinav8520

Education

University of Florida, *Gainesville, FL* **Aug 2023 – Aug 2025**
Masters in Computer and Information Science and Engineering *CGPA: 3.92/4.0*

Anurag Group of Institutions (AGI), *Hyderabad, India* **Aug 2019 - June 2023**
Bachelors in Electronics and Communication Engineering *CGPA: 8.06/10*

Internship

The Hackett Group **March 2023-April 2023**
Project Trainee *Hyderabad, India*

- Cultivated practical **Machine Learning** expertise by projects such as **Sentiment Analysis** to interpret customer sentiments and **Market Mix Modeling** to understand sales drivers, enhancing my analytical problem-solving capabilities.
- Completed a project on identifying employee stress triggers, utilizing data analytic tools to highlight potential stress factors, and laying the groundwork for ongoing research and discussion on workplace wellness.

Projects

Food Delivery Web Application | *React, HTML, CSS, Node.js, Express, MongoDB* **October 2024**

- Developed a responsive frontend using **React, HTML, and CSS**, implementing key features such as a visually appealing **home page**, **menu filtering by category**, and a **checkout page**, ensuring an engaging user experience.
- Engineered the backend using **Node.js and Express**, creating robust **RESTful API endpoints** to handle user requests and efficiently serve data from the **MongoDB Atlas** database.
- Implemented secure **authentication and authorization** using **JSON Web Tokens (JWT)**, enabling users to **sign up**, **log in**, and maintain their session during transactions.
- Integrated an **AI chatbot** feature using **OpenAI GPT-3.5 Turbo API**, enabling **personalized food recommendations** and handling **user queries** as an intelligent virtual assistant.

Personalized News Categorization | *Python, Natural Language Processing (NLP), Large Language Models* **April 2024**

- Developed a personalized news delivery system utilizing **Retrieval-Augmented Generation (RAG)**, leveraging user profiles to enhance the accuracy of content retrieval.
- Implemented **prompt generation** techniques and fine-tuned the **Flan-T5-base model** (3e-4 learning rate over 3 epochs) to improve news categorization and user-specific content delivery.
- Optimized the retrieval process using the **BM25 algorithm**, enhancing the alignment of news content with individual preferences while ensuring efficient model performance.

Remote Sensing Image Captioning using Deep learning | *Python, Pandas, TensorFlow* **March 2024**

- Led a deep learning project focused on generating precise and contextually relevant descriptions for remote sensing images, enhancing interpretability and analysis of complex spatial data.
- Expertly employed **Convolutional Neural Networks (CNN)** with the **RESNET 152** architecture for high-accuracy feature extraction, integrated with **Long Short-Term Memory (LSTM)** units in **Recurrent Neural Networks (RNN)** to generate coherent image captions, leveraging **TensorFlow** for model development.
- Thoroughly evaluated the model's performance using industry-standard metrics, achieving a **BLEU-1 score of 0.7** and **CIDEr score of 2.38**, ensuring both precision and relevance in generated captions.

Twitter Clone Development | *Python, Django, HTML, CSS, and Bootstrap* **November 2023**

- Engineered a complete Twitter clone using **Django**, incorporating key features like user profiles, follow/unfollow system, and tweet management (add, edit, delete).
- Utilized **HTML, CSS,** and **Bootstrap** to design and implement an interactive and responsive user interface.
- Integrated multimedia functionalities, allowing users to create profiles with pictures and interact with tweets (like, unlike, share).
- Developed a robust search engine to find tweets efficiently, highlighting advanced programming and algorithm skills in **Python and Django.**

Technical Skills

Languages: Python, C, Java, F#, SQL, JavaScript
Web Frameworks and Databases: Node.js, Express, React, Django, HTML, CSS, MongoDB, MySQL
Tools and Cloud Technologies: AWS, IBM Cloud, GitHub, VS Code, Postman, Android Studio, Microsoft Office