RAJASEKHAR NAIDU CHINNAPOTHULA

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Professional Summary

Results-driven Data Science professional with expertise in **Machine Learning (ML)**, **Deep Learning (DL)**, **Natural Language Processing (NLP)**, and **Generative AI (GenAI)**. Highly skilled in developing predictive models, implementing deep learning architectures, and deploying AI solutions using **TensorFlow**, **Keras**, **PyTorch**, and **Streamlit**. Extensive experience in applying **exploratory data analysis (EDA)**, **data visualization**, and **predictive analytics** to solve real-world challenges. Passionate about leveraging data and AI to drive impactful decisions and continuously evolving with cutting-edge technologies.

Technical Skills

- **AI & Machine Learning**: Deep Learning, Neural Networks (ANN, RNN, CNN, LSTM, GRU), **Transformers**, **Attention Mechanisms**, **Backpropagation**, **Gradient Descent** Optimization (Stochastic, Mini-batch, Adam), **Vanishing Gradient Problem**
- **Natural Language Processing (NLP)**: Tokenization, Lemmatization, Stemming, Word Embeddings, Named Entity Recognition (NER), Part-of-Speech Tagging
- **Machine Learning Algorithms**: Linear Regression, Logistic Regression, Decision Trees, K-Nearest Neighbors (KNN), Random Forest, Support Vector Machines (SVM), Clustering (K-Means, DBSCAN)
- **Deep Learning Frameworks**: **TensorFlow**, **Keras**, **OpenAI GPT Models**, **GenAI,Transformers**
- **Tools & Technologies**: Streamlit, **Power BI**, Git, SQL, **MySQL**, **Pandas**, **NumPy**, **Matplotlib**, **Seaborn,Opencv2**
- **Other**: GitHub, Visual Studio Code, HTML, CSS,JavaScript.

Work Experience

Data Science Intern | Ramana Soft| Hyderabad:

- **ML Pipeline Process**: Developed a predictive model using Python and machine learning, following a comprehensive pipeline from data collection to model deployment, achieving 83% accuracy.
- **Deep Learning Models**: Applied ANN, CNN, and RNN for various tasks like image classification and sequence prediction.
- **NLP & Generative AI**: Built NLP models using transformers, BERT, GPT, and GenAI techniques. Integrated RAG, FAISS, and Chroma for efficient data retrieval.
- **Efficient Data Handling**: Streamlined data preprocessing by 60%, reducing training time by 30%.
- **Full-Stack Integration & Visualization**: Integrated MySQL with Streamlit and presented insights through Power BI, boosting stakeholder engagement.
- **Technical Proficiency**: Gained expertise in Python, machine learning, and MySQL for complex data extraction.
- **Data Visualization**: Used Matplotlib and Power BI for effective communication of analytical insights.

Academic Projects

GenAI Document Analysis and Sentiment Analysis:

- Built a **Generative AI (GenAI)** model for document analysis, using **NLP** techniques to extract key information from large documents, useful for automating document processing in industries like legal and finance. Developed a **Sentiment Analysis** model with **Airjet Twitter data** to classify tweet sentiments, applicable for brand monitoring and social media analytics.

Intelligent Resume Analysis and Selection with LlamaIndex:

- Developed an intelligent resume scanning system using **LlamaIndex** to streamline recruitment. Enabled automated processing and querying of resumes to identify candidates based on specific skills.
- Leveraged **NLP** to extract key information, reducing manual effort and improving accuracy. Delivered a scalable, efficient solution to **enhance hiring workflows.**

Film Fanatic RAG Assistant Bot:

- The **Movies-Chatbot**, powered by **RAG (Retrieval-Augmented Generation)** and **SQL**, is your ultimate companion for exploring the vibrant world of cinema. This chatbot offers instant answers about movies, actors, directors, and award-winning performances, making it ideal for both long-time fans and curious newcomers. By combining advanced natural language processing with a **robust SQL database**, it provides tailored movie recommendations, dynamic Q&A, and insights into iconic moments in films. Designed to enhance your cinema experience, it also holds potential for future expansions, such as real-time updates on new releases and multilingual support. Dive into the magic of movies with this innovative tool!

DynamicAnswerRAG-FAISS:

- Developed a RAG system integrated with FAISS to provide answers based on external websites. The system retrieves relevant information, processes it, and generates context-aware answers. FAISS efficiently searches large datasets for the most relevant documents, ensuring real-time, accurate responses**.**

YOLOv3 Object Detection (Computer Vision):

- Developed and deployed an object detection system using YOLOv3 to detect and classify objects in images. The model provides real-time detection with high accuracy, capable of identifying multiple objects in a single pass. It can be applied in areas like surveillance, retail, and automated inspection systems.

Education

B.Tech in Electronics and Communication Engineering *AUG 2020 –May 2024*

KSRM COLLEGE OF ENGINEERING (Affiliated with JNTUA)

- Maintaining an 90% academic score.

Certificates

- Introduction to Data Science | CISCO
- Python | HackerRank
- Basic Python | Great Learning
- SQL | HackerRank

Leadership & Engagement

- **Academic & Coding Achievements**: Ranked 1st four times and 2nd once in various competitions. Won 1st place in **ML Model Preparation & Presentation** at **KSRM-Kadapa Alumni 2023** and actively participated in coding challenges at SV University and Kaggle.
- **Cricket Leadership:** Captained the Kadapa **district cricket** team, fostering teamwork and strategic thinking through sports leadership.
- **Class Representative (CR)**: Showcased leadership and communication skills while co-ordinating with peers and faculty.