Chethan H N

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Experienced AI Developer specializing in Machine Learning, Deep Learning, Large Language Models(LLM) and AI techniques. Proficient in Python, Pytorch, TensorFlow,, NLP and CNN, Docker and Cloud deployments. Seeking a challenging role to drive innovation and deliver impactful results in AI projects.

PROFESSIONAL EXPERIENCE

Artificial Intelligence Developer Mar 2023 – Present
DRDO Funded Project, VIT *Chennai, Tamilnadu*

- Engaged in a DRDO-funded project focusing on behavior modeling of endpoints/users for real time anomaly detection and insider threat prevention using advanced ML and DL techniques.
- Developed AI model for user/endpoint behavior monitoring, role clustering, anomaly detection using Python, Wazuh SIEM, and regex for seamless log data handling.
- Utilized PyTorch, TensorFlow, Transformers to optimize ML models for log analysis. Collaborated for seamless integration using Docker for efficient deployment.
- Ongoing implementation of ML & DL methods poised to achieve a 25% reduction in false positives, optimizing log data analysis for the project.

Machine Learning Intern Sep 2022 – Nov 2022
Feynn Lab Services *Remote*

- Implemented NER techniques to analyze and extract key entities from customer support tickets, resulting in a 20% increase in the identification and resolution of critical issues.
- Developed and fine-tuned NER models using spaCy and custom-built algorithms, improving entity recognition accuracy by 15%.
- Conducted in-depth analysis on NER-extracted entities to identify patterns, trends, and customer sentiments, providing actionable insights for service enhancement strategies.

PROJECTS

Real-time Anomaly Detection for Endpoint Security *Python, Pytorch, SQL, Tensorflow, Docker*

- Project Objective: To develop an advanced behavioral AI models for real-time anomaly detection and threat identification at Endpoints/Users using Host and Network Logs data.
- Tools & Techniques: Utilize Python, PyTorch, TensorFlow, Docker, and SQL database for log analysis.
- Applied ML algorithms, deep learning techniques (RNN, LSTM), NLP, Transformers, federated learning for accurate anomaly detection and classification.
- Impact: Enhance threat detection capabilities, improve system resilience, and provide proactive cyber security measures.

Knowledge Assist : A Smart Information Retrieval System *Python, Hugging_Face,NLP,MongoDB,Streamlit,LLM*

Link

- Project Objective: To develop an intelligent system that combines advanced natural language processing techniques with Google Gemma's natural language generation model to enhance user interactions and provide informative responses to user queries.
- Database Implementation:Implemented MongoDB as the primary data storage and retrieval system, enhancing data accessibility and facilitating efficient navigation and retrieval procedures for seamless operations.
- Text Embedding: Implemented Sentence Transformer to enhance search relevance by employing state-of-the-art text embedding techniques, ensuring comprehensive and accurate information retrieval.

- Efficient Retrieval Mechanism: Enabled efficient information retrieval through vector search.
- Integrated Google Gemma's Large language model natural language generation capabilities, enabling the system to generate coherent and informative responses to user queries, thereby enhancing user interactions and satisfaction.

Retail Query Assistant Chatbot *Python, Langchain, Hugging face, Chroma DB, Streamlit* *Link*

- Project Objective: Develop an end-to-end Chabot language model tool that can handle complex natural language queries for a store's management MySQL database.
- Text Processing and Embedding: Utilize ChromaDB to extract and embed both queries and answers, forming a vector database.
- LLM Integration and Database Chain Creation: Integrate Langchain's Google Palm LLM with few short prompts to create an SQL database chain.
- User Interface Development: Design a streamlined UI using Streamlit, allowing users to input queries and receive LLM-generated responses.
- Project Impact: Efficient Query Processing: Developed a tool to assist store management by accurately processing diverse and complex queries.

EDUCATION

Bachelor of Engineering (BE) Mysuru, Karnataka
ATME College of Engineering, VTU University *June. 2014 – June 2018*
*GPA - **77 %***

TECHNICAL SKILLS

Programming Languages: Python

Database: SQL (MySQL), Vector Database (VectordDB) ,Pinecone, Chroma DB.

Frameworks: Pytorch, Tensorflow, Keras, Lang chain.

Cloud Computing: AWS Sagemaker

Libraries: Pandas, NumPy, Matplotlib, Seaborn, scikit-learn, SciPy, OpenCV, Hugging Face Transformers, Genism, and NLTK, Spacy.

Data Science & Miscellaneous Technologies: CI/CD pipeline (cleansing, wrangling, visualization, modeling, interpretation), ETL, Hypothesis testing, Probability.

Area of Expertise: Machine Learning, Deep learning, CNN, Natural language Processing(NLP), Neural Network, Predictive Modelling, Computer Vision, Transfer Learning, Large Language Models, Statistics, Decision Analytics, Generative AI, Retrieval augmented generation (RAG) , LLM Fine-tuning.

Other Skills: Git, GitHub, Tableau, Linux, Advanced Excel, Docker, Streamlit

COURSEWORK AND CERTIFICATIONS

- Generative AI with Large Language models
- Python
- Tableau
- Deep learning with Keras and Tensorflow
- SQL
- Pytorch
- Statistics
- Machine learning