Chethan H N

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Experienced AI Developer specializing in Machine Learning, Deep Learning, 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 and anomaly detection using Python, Wazuh SIEM, and regex for seamless log data handling.
- Utilized PyTorch, TensorFlow and 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.
- Led development of "Knowledge Assist" system, combining NLP with Gemma, MongoDB, and open-source models.
- Established MongoDB for versatile data storage and retrieval.
- Implemented SentenceTransformer for text embedding, enhancing search relevance.
- Integrated Gemma for natural language generation, ensuring coherent responses.

- Enabled efficient information retrieval through vector search.
- Enhanced scalability with MongoDB and open-source technology integration.

Retail Query Assistant Chabot *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, MangoDB Atlas.

Frameworks: Pytorch, Tensorflow, Keras, Lang chain.Llama Index

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

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