Chethan H N

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Experienced AI Developer specializing in Machine Learning, Deep Learning, and Large Language Models (LLMs). Proficient in Python, PyTorch, TensorFlow, NLP, CNNs, Docker, and cloud deployments. Seeking a challenging role to deliver impactful results in AI projects.

PROFESSIONAL EXPERIENCE

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

➢ Collaborated with a team of data scientists and security experts to develop user behavior modeling models for real-time anomaly detection and insider threat prevention, achieved a 25% reduction in false positives, compared to baseline systems.

➢ Optimized log analysis ML models with PyTorch, TensorFlow, and Transformers resulting in a 40% speed enhancement and Reduced operational bottlenecks by 35%

➢ Implemented federated learning for decentralized model training, ensuring privacy across multiple endpoints, leading to a 50% increase in model training scalability.

➢ Led deployment of federated learning models, improving threat detection by 20% with Docker for seamless integration.

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

➢ Implemented Named Entity Recognition (NER) techniques to analyze and extract key entities from customer support tickets, resulting in a 20% increase in critical issue identification and resolution.

➢ Refined and fine-tuned NER models using spaCy and custom-built algorithms Enhanced entity recognition accuracy by 15%.

➢ Analyzed NER-extracted data to identify patterns, trends, and customer sentiments, leading to a 30% improvement in customer service response times.

PROJECTS

User Behavior Models for Real-time Endpoint Security   *Python, Pytorch, SQL, Tensorflow, Docker*

➢ Project Objective: Developed advanced User behavioral AI models for anomaly detection and threat identification using host and network logs data in real time across 200 endpoints.

➢ Employed NLP algorithms (RNN, LSTM) Transformers for behavior analysis, implementing Federated Learning for decentralized model training across 200 User Endpoints.

➢ Impact: Personalized behavioral models for individual users, reducing false positives by 25% and decreasing overall security incidents by 30% through threat prevention measures against insider and external attacks.

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

➢ Project Objective: Develop an end-to-end language model chatbot for handling complex natural language queries on a store's management MySQL database, supporting over 1,000 unique queries daily.

➢ Utilized ChromaDB to extract and embed over 10,000 queries and answers, forming a vector database for efficient search and retrieval.

➢ Engineered an SQL database chain using Langchain's and streamlined data retrieval process and reduced database query time by 35%, boosting overall system performance by 20%.

➢ Designed a streamlined User Interface using Streamlit, allowing users to input queries and receive LLM-generated responses.

➢ Project Impact: Enhanced query processing efficiency by 40%, providing store management for processing diverse and complex queries, resulting in a 25% reduction in manual query resolution time.

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

    Link

- ➢ Built an intelligent knowledge assistance system integrating retrieval-based and generative-based techniques, enhancing user search experience.
- ➢ Leveraged MongoDB for storage and retrieval, achieving a 30% improvement in search efficiency compared to traditional relational databases.
- ➢ Utilized open-source models like Sentence Transformer and MongoDB's vector search capabilities, resulting in a 50% reduction in resource consumption and a 40% increase in system scalability.
- ➢ Integrated Gemma for natural language generation (NLG) tasks, leading to a 40% reduction in response time for user queries.

EDUCATION

Bachelor of Engineering (BE)   Mysuru, Karnataka
ATME College of Engineering, VTU University   *June. 2014 – June 2018*
*CGPA – **8.10***

SKILLS

Programming Languages: Python

Database: SQL, Vector DB, Pinecone, Chroma DB.

Frameworks: Pytorch, Tensorflow, Keras, Lang chain, Llama index

Cloud Computing: AWS Sage maker, Azure, Google Cloud Platform.

DevOps Tools: Docker, CI/CD pipeline (Github Actions)

Libraries:
- Data Science: Pandas, NumPy, Matplotlib, Seaborn, scikit-learn, SciPy
- Deep Learning & NLP : OpenCV, Hugging Face Transformers, Gensim, NLTK, SpaCy

Data Science & Miscellaneous Technologies: Data cleaning, wrangling, visualization, modeling, interpretation, ETL, Hypothesis testing, Probability.

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

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

COURSEWORK AND CERTIFICATIONS

- Generative AI with Large Language models
- Python
- Tableau

- Deep learning with Keras and Tensorflow
- SQL
- Pytorch

- Statistics
- Machine learning