

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

DRDO Funded Project, VIT

Mar 2023 – Present

Chennai, Tamilnadu

- Developed user behavior modeling models for real-time anomaly detection and insider threat prevention, achieving a 25% reduction in false positives compared to baseline systems.
- Utilized PyTorch, TensorFlow, and Transformers to optimize ML models for log analysis, achieving a 40% improvement in processing efficiency.
- Implemented federated learning concepts for decentralized model training, ensuring privacy and scalability 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

Feyn Lab Services

Sep 2022 – Nov 2022

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

Behavioural Analysis for Real-time Endpoint Security

Python, Pytorch, SQL, Tensorflow, Docker

- Project Objective: To develop an advanced behavioural 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.
- Utilized ML algorithms (RNN, LSTM), NLP, Transformers for behavior analysis, implementing Federated Learning for decentralized model training.
- Impact: Implemented individualized behavior models for each user, reducing false positives by 25% and proactively preventing insider threats and external attacks, resulting in a 30% decrease in security incidents.

Retail Query Assistant Chatbot

Python, Langchain, Hugging face, Chroma DB, Streamlit [Link](#)

- Project Objective: Develop an end-to-end language model Chabot 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.

[Link](#)

- Developed and implemented 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 SentenceTransformer 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)

ATME College of Engineering, VTU University
GPA - 77 %

Mysuru, Karnataka
June. 2014 – June 2018

TECHNICAL SKILLS

Programming Languages: Python

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

Frameworks: Pytorch, Tensorflow, Keras, Lang chain.

Cloud Computing: AWS Sagemaker

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(NLP), 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

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