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Machine Learning Engineer

Profile summary

A data-driven professional with over 2+ years of experience in machine learning, data analysis, and statistical modelling. Proficient in developing, deploying, and optimizing machine learning models using tools such as Python, Sql, TensorFlow, Pytorch, GenAi, etc. Experienced in extracting, cleaning, and analyzing data from diverse sources to build predictive models and data driven business insights. Proven track record of leveraging machine learning algorithms to improve operational efficiency and develop data-driven strategies. Possess strong communication, collaboration, and problem-solving skills.

EDUCATION

Anna University Chennai, Maria College of Engineering and Technology Attoor, Kanyakumari.
Bachelor of Engineering in Computer Science (BE.CSE)

- Cumulative GPA: 7.3/10
- Relevant Coursework: Machine Learning, Data Science Statistics

PROFESSIONAL EXPERIENCE

Deepflow Technologies **Oct2022 - Present**
Bangalore

Machine Learning Engineer

Reducing the Unplanned Downtime of Makino Machine

- Streamlined data workflow by cleaning, transforming, and importing data into the company's systems. Designed and deployed scalable machine learning models on AWS cloud using services such as SageMaker, and Lambda. Constructed data models in collaboration with cross-functional teams, adhering Github Actions to MLOps standards for CI/CD to ensure continuous model deployment, training, and inference.
- Automated and optimized data pipelines with S3 for seamless model training and inference. Monitored and maintained deployed models, ensuring high performance and accuracy in production environments.
- Business Benefits: Reduced employee iteration rate by 15%, achieved ML accuracy of 92%, and saved the company $250K annually (projected between $250K to $350K).
- Technologies Used: AWS SageMaker, Lambda, S3, CI/CD, Python, TensorFlow, PyTorch.

Gen Ai and computer vision

- Developed Chatbots using Generative AI LLMs and enhanced them with RAG architecture for providing relevant, real-time information to farmers. Leveraged AWS Bedrock and Titan for deploying large language models (LLMs) and foundation models.
- Additionally, developed an ATS optimization tool using OpenAI APIs, improving resume match rates by 50%, increasing users' chances of securing interviews.
- Built and optimized computer vision models for autonomous rubber tapping, collaborating with robotics teams to integrate these models into robotic arms, which led to a 20% increase in efficiency.
- Business Benefits: Achieved a 20% efficiency increase, saving $100K annually in rubber tapping operations. Reduced the need for manual intervention in AI systems by 40%.
- Technologies Used: AWS Bedrock, Titan, OpenAI APIs, RAG architecture, Computer Vision, LLMs, Python, TensorFlow.

Tangedco **Mar2021 - Oct2022**
Kodaikanal

Gangman

- Data Analysis & Mapping: Leveraged mapping software to analyze spatial data, uncovering patterns and trends in Electricity statistics, and Materials datasets.
- Systems Administration & ERP: Managed system administration teams, ensuring support for purchasing. Experienced in SAP ERP for procurement processes.
- Business Intelligence Reporting: Developed data visualizations and reports, providing actionable insights to stakeholders and informing strategic decisions on resource allocation and operational optimization.

SKILLS

- **Programming Languages:** Python, SQL, Linux
- **Frameworks&Tools:**TensorFlow,PyTorch,LangChain,LlamaIndex,Streamlit,Flask(eg..scikit-learn)
- **Vector Databases**: ChromaDB, Pinecone
- **Database Management:** Experience with DataStax Cassandra DB in production environments, Mysql, Mongodb
- **Data Science Technologies:** A/B testing, Data science pipeline, Statistics, Time series, Hypothesis testing, OOP, APIs, Git.
- **Generative AI Technologies:** Open-source and paid LLM models (Llama3, Mistral, OpenAI, Google Gemini Pro)
- **Deployment Platforms:** AWS Bedrock, AWS (EC2, Lambda), Azure Functions, Hugging Face Spaces
- **AI/ML Techniques:** Ai Agents, RAG, Fine-tuning with custom data, Lora, Qlora, vector embedding, NLP, neural network optimization, MLOPS, Dockers.

PROJECTS AND LEADERSHIP

Advanced Q&A Chatbots with DataStax Databases and Vector Embedding

- **Overview**: Engineered chatbots that provide accurate, context-aware answers by integrating DataStax databases with vector embedding techniques.
- **Technologies**: DataStax Databases, vector embedding algorithms, Hugging Face Spaces.
- **Outcome**: Achieved a 40% reduction in the need for human intervention in customer service inquiries, improving response accuracy and user satisfaction.