

Venkatalakshmi Kottapalli

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PROFESSIONAL SUMMARY

Results-driven AI/ML Engineer with 4+ years of experience in developing AI agents, RAG pipelines, chatbots, and machine learning models using Python, SQL, MLOps, and cloud technologies. Proven expertise in statistics, data science, machine learning, deep learning, and NLP with a strong focus on developing and deploying AI solutions in collaboration with cross-functional teams. Strong written and verbal communication skills.

EDUCATION

Master's in Artificial Intelligence | Yeshiva University | NY | GPA: 4.0/4.0 | Jan 2024 - Aug 2025
Bachelor's in Mathematics | Adikavi Nannaya University | India | GPA: 3.8/4.0 | Jun 2015 - May 2018

TECHNICAL SKILLS

Languages : Python, SQL, R, Cypher, LaTeX
Databases : PostgreSQL, Neo4j, FAISS, SQLite, ChromaDB
Frameworks : Scikit-learn, PyTorch, TensorFlow, Keras, NLTK, spaCy, SciPy, LangChain, LangGraph
Cloud Platforms: Azure, AWS, GCP, Heroku, Streamlit
APIs & Tools : REST APIs, Flask, FastAPI, Postman, Power BI, Visual Studio Code, GitHub, Jupyter, Excel
DevOps/MLOps : ML Pipelines, MLflow, CI/CD, Git, Docker, Kubernetes, Version Control, Model Deployment
AI/ML : Supervised, Unsupervised, Classification, Regression, Clustering, CNN, RNN, LSTM, GRU
LLMs & Gen AI : Prompt Engineering, RAG, Agents, Multi-Agent Systems, Transformers, MCP, Hugging Face

WORK EXPERIENCE

Machine Learning Co-op | ZSAnalytics May 2024 - Present

- Developed an end-to-end machine learning lifecycle, including data acquisition, data preprocessing, feature engineering, model training, model evaluation, and deployment, retraining using Azure ML Studio and AKS.
- Handled large datasets (10M+) using SQL, NumPy, and Pandas for data acquisition and data preprocessing.
- Conducted exploratory data analysis (EDA) and data visualization using Matplotlib to extract hidden insights.
- Applied feature engineering techniques to create 10+ derived features, boosting model precision by 12%.
- Trained and evaluated predictive models to forecast customer engagement, tracked results with MLflow, achieving 95% accuracy, 40% ROI improvement, and 98% customer retention rate.
- Implemented MLOps pipelines with Azure DevOps CI/CD automation, API integration, and Azure Monitor.
- Delivered actionable insights through visual reports and presentations using Excel, PowerBI, and PowerPoint.

Software Developer AI/ML | Mee Sahayakaari Jan 2019 - Dec 2021

- Engineered an AI chatbot using Google Dialogflow, Google Translate API, and DuckDuckGo search integration, providing bilingual voice assistance to over 50,000 users.
- Developed cross-platform applications to enhance user experience, resulting in 90% customer satisfaction.
- Deployed and hosted the chatbot on the Google Play Store, reducing user onboarding time by 40%.

PROJECTS

Multi-Agent Conversational AI System: Built a Multi-Agent system using Large Language Models (LLMs) like GPT-4 to dynamically route user queries to specialized agents. Enabled context-aware responses via Retrieval-Augmented Generation (RAG) using ChromaDB and session memory management with SQLite.

GenAI Agent: Engineered a Generative AI agent for automating order processing, account management, and inventory tracking using LLaMA, LangChain, and LangGraph, reducing manual workload by 60%.

RAG-Based Chatbot: Developed a domain-specific chatbot leveraging LLMs, Embeddings, and a FAISS vector database to generate citation-backed responses with 90% accuracy using the RAG architecture.