Krishna Vamsi Regulavalasa

Title: Machine Learning Engineer (Intern)

Location: Pune, Maharashtra
Languages: English (Fluent), Telugu (Native), Hindi (Fluent)

Social: Linkedin/KrishnaVamsi | GitHub

Experience Summary

- Aspiring Generative AI Developer with a strong interest in Machine Learning (ML), Natural Language Processing (NLP), and AI-driven applications.
- Completed training in Generative AI technologies, focusing on machine learning models, NLP, and AI-driven solutions.
- Learning to develop and fine-tune Large Language Models (LLMs) using Azure OpenAI and AWS AI services.
- Gaining experience in building and deploying AI models on Microsoft Azure and AWS, exploring services like Azure OpenAI, Cognitive Services, AWS Bedrock, and Lambda.
- Hands-on experience with Python, Pandas, NumPy, and Scikit-learn for data preprocessing and model evaluation.

Technical Skills

- **Programming Languages:** Python, C#
- **Databases & Knowledge Graphs**: Neo4j (Cypher), SQL
- **AI & ML Frameworks:** TensorFlow, PyTorch, Hugging Face Transformers
- **Generative AI & NLP:** OpenAI GPT, LangChain, Langraph, Text-to-Image Models
- **Cloud & AI Services:** AWS Bedrock, Azure OpenAI, Azure Cognitive Services
- **Data Science & Analytics:** Pandas, NumPy, Scikit-learn, Matplotlib
- **Tools & Services:** VS Code, Git, GitHub, Streamlit

Certifications

- AWS AI Practitioner Certified
- AI-102: Microsoft Azure AI Engineer Associate
- AI-900: Microsoft Azure AI Fundamentals
- Python Fundamentals Certification
- Databricks Gen AI Fundamentals
- AZ-900: Microsoft Azure Fundamentals

Project Experience

Project: **Housing in Mexico – AI-Driven Data Insights**

Description: Led a Python-based data analysis project, providing insights that shaped strategic decisions through detailed reports and visualizations.

Role/Title: Team Member.

Duration: 2nd Nov 2024 -20th Dec 2024

Responsibilities:

- Applied Machine Learning and Data Analytics to extract actionable insights from real estate datasets.
- Conducted exploratory data analysis (EDA) and created visualizations that improved decision-making by 20%.
- Automated data cleaning and preprocessing, reducing manual effort and improving model accuracy.

Environment: Google Collab

Technologies/ Language: Python, Pandas, Azure OpenAI, Virtual Machines

Project: **Multi-Agent AI Chatbot with Planning and Execution Agents**

Description: To Build a multi-agent AI chatbot system capable of planning, executing, and handling multimodal inputs using Azure OpenAI and Vision services. The architecture separates task classification and execution, enabling the system to dynamically switch between chat, image analysis, and research tasks based on user input.

Role/Title: Team Member.

Duration: 1st April 2025 - Ongoing

Responsibilities:

- To Develop Planning Agent to classify user inputs and determine task types (chat, image analysis, research).
- Build Execution Agent to handle responses using Azure OpenAI and Vision API for multimodal interactions.
- Designing and managing Context Manager to maintain conversational history for coherent AI responses.
- Implemented Knowledge Manager to enable knowledge sharing and context transfer between agents.
- Utilized Flask for backend API and integrated with a frontend via React for a seamless user interface.
- Enabled vision-based responses by integrating Azure Computer Vision for image captioning and object detection.

Environment: Localhost / VS Code (Backend), Browser (Frontend)

Technologies/ Language: Python, Flask, React, Azure OpenAI, Azure Vision, OpenAI Chat API, HTML/CSS

Project:	**Neo4j-backed Chatbot using Python**
Description:	Developed an intelligent chatbot system capable of translating natural language queries into graph-based insights using Neo4j and OpenAI's LLMs. The chatbot uses LangChain and Cypher query generation to recommend movies, actors, and related entities in real time through a Streamlit UI.
Role/Title:	Developer.
Duration:	17th Jan 2025 – 3rd Mar 2025
Responsibilities:	• Developed Planning Agent to classify user queries and determine task types (movie recommendation, actor info, genre-based suggestions) • Built Execution Agent to process responses using OpenAI's GPT model and generate context-aware answers • Built a Neo4j Retriever Tool to fetch relevant entities and relationships from the graph database • Developed a Text-to-Cypher Tool to convert natural language into executable Cypher queries using LangChain • Fine-tuned Cypher generation with few-shot learning examples to improve accuracy and relevance of query results • Utilized Streamlit to create an interactive frontend for users to chat with the assistant in real time
Environment:	Localhost (VS Code for backend), Browser (Streamlit frontend)
Technologies/ Language:	Python, Streamlit, Neo4j (Cypher), LangChain, OpenAI GPT, Git

Education

Master of Science **WorldQuant University** **Oct 2023 – May 2026**

- Major in Financial Engineering Grade : 9.2

Others

Public Speaking & Volunteering:

- Speaker at ".NET Student Conference 2024" on YouTube with 6K+ live viewers
- Speaker at Global AI Pune Meetup on **Azure OpenAI**.

Achievements

- Winner – Spring AI Project "**Forest Sentinel AI**" by Microsoft
- Awarded AWS AI/ML Nano Degree Scholarship for top 100 placement in the AWS Deepracer Student League Competition.

Interests

- Tech Blogging & Public Speaking

(Krishna Vamsi)