3 HOUR WORKSHOP

MICROSOFT AZURE AI STUDIO AND CHATGPT MASTERCLASS
FOR DEVELOPERS / DATA SCIENTISTS

TARGET AUDIENCE:

This masterclass is designed for developers, software engineers, data scientists, and technical professionals who are keen to start exploring the capabilities of AI language models like GPT4 and harness them securely for innovative applications within the Microsoft Azure cloud stack.

PREREQUISITES:

- Python (basic/beginner level and up)

- Microsoft Azure Account (14 day Free-trial will suffice)

- An IDE (e.g. VScode, Spyder)

- ChatGPT account (free-tier will suffice)

WORKSHOP OVERVIEW:

Step into the realm of advanced AI opportunities with our ChatGPT and Large Language Model (LLM) Masterclass for Developers. Dive deep into the fundamentals of prompt engineering, LLM APIs, and Azure AI Studio. This technical training will equip you with a comprehensive understanding of accessing and integrating ChatGPT and Claude via APIs, leveraging the Langchain library for enhanced AI interactions, deploying GPT models on Azure with OpenAI services, and creating a chatbot and application that showcases your use case. Elevate your development toolkit and gain the expertise to architect sophisticated AI-powered solutions.

AGENDA OUTLINE:

1) Exploration of Large Language Models and ChatGPT (20 minutes)

- **Welcome and agenda**

- **Overview of GPT-4o architecture, capabilities, and the evolution of LLMs**

- **LLMS and its potential to supercharge developers & data scientists**

2) API Essentials for Accessing ChatGPT (30 minutes)

- **Overview of OpenAI's API for ChatGPT**

- **Authentication, rate limits, and cost monitoring**
- **Anthropic's Claude**

- **Hands-on demo: Making multimodal (text, image) API calls to OpenAI API and exploring the parameters and output**

Break (30 minutes)

3) Azure AI Studio (30 minutes)

- **Walkthrough of setting up Azure for AI deployments**

- **Step-by-step guide on deploying GPT4o as well as other open-source LLMS on Azure**

- **Creating and publishing prompt flows**

- **Introduction to LLM evaluation metrics**

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Break (10 minutes)

4) Langchain Basics and Coding Practice (30 minutes)

- Introduction to Langchain and its utilities for LLM integrations

- A coding walkthrough of the Langchain pipeline (ingest, transform, embed, retrieve)

- Introduction to RAG (retrieval augmented generation)

5) Building a Simple Streamlit LLM-Driven App and deploy to Azure Container Instance (30 minutes)

- Overview of Streamlit framework for rapid app development

- Live coding: Building a Streamlit app that evokes an LLM for real-time user queries

- Streamlit limitations for production

6) Ethical Implications and Best Practices (15 minutes)

- Discussing the importance of ethical AI and data privacy

- Best practices for responsible AI usage and minimizing bias in models

7) Q&A and Next Steps (15 minutes)

- Open floor for questions, troubleshooting, and in-depth discussions on advanced topics

- Resources for further learning and exploration in the field of AI language models

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