

Workshop Title: Intelligent Chatbots with ChatGPT

Overview:

This course is designed to equip learners with the knowledge and skills to build intelligent chatbots using ChatGPT, a state-of-the-art language model. You will explore the fundamentals of chatbot development, understand the capabilities of ChatGPT, and learn how to integrate it into your chatbot projects. Through hands-on exercises and practical examples, you will gain proficiency in designing conversational flows, implementing natural language understanding (NLU), and creating engaging chatbot experiences. By the end of this course, you will be able to develop and deploy chatbots powered by ChatGPT.

Topic	Description
Day 1	
Lesson 1. Introduction to Chatbots and ChatGPT	Chatbot Introduction Types of Chatbots Understanding the role and applications of chatbots Introduction to OpenAI Overview of ChatGPT Exploring the benefits Challenges of using ChatGPT Signing Up for an OpenAI Account
Lesson 2. Let's Talk About GPT	Overview of Generative Pre-trained Transformer (GPT) models How ChatGPT works? Evolution and advancements of GPT models Understanding the architecture of GPT Model Training process of GPT models
Lesson 3. ChatGPT API and Integration	Overview of the ChatGPT API and available libraries Setting up API credentials and environment for ChatGPT integration Making API calls and receiving responses from ChatGPT
Lesson 4. Python Essentials	Introduction to installation of Anaconda Introduction to Python Editors & IDE's (Anaconda, Spyder, Jupyter etc...) Understand Jupyter notebook & Customize Settings Overview of Python- Starting with Python Python data types: Primitive Core built-in data structures – Lists, Tuples, Dictionaries String, String built-in methods Control Flow & Conditional Statements Python Functions
Lesson 5. Python Packages	NumPy Pandas Matplotlib
Day 2	
Lesson 6. Natural Language Understanding (NLU)	Natural Language Processing Tokenization and Text Preprocessing Lemmatization and Stemming Stop Words Regex Bag-of-Words TF-IDF Named Entity Recognition (NER) Part-of-Speech (POS) Tagging Sentiment Analysis

Lesson 7. Chatbot using NLP	Conversational Chatbots Introduction Chatbot Design Flow Coding Flow
Lesson 8. Using ChatGPT General Prompts	How to Input a general prompt Understanding Response of ChatGPT Tips for successful prompts Crafting effective prompts
Lesson 9. Chatbots using ChatGPT	Conversational chatbot using GPT Virtual assistant chatbot using GPT Restaurant/Food Industry chatbot using GPT

Projects:

1. Reviews Sentiment Analysis:

- Develop a sentiment analysis model that classifies text as positive, negative, or neutral.
- Use NLP library - NLTK to classify reviews as positive, negative or neutral.

2. Personal Assistant Chatbot:

- Develop a virtual personal assistant chatbot that can perform tasks like setting reminders, scheduling appointments, providing weather updates, etc.
- Use NLP techniques to understand user commands, extract relevant information, and execute the requested tasks.

3. Customer Support Chatbot:

- Build a chatbot that can handle customer support queries and provide relevant assistance.
- Utilize NLP and sentiment analysis to understand user sentiment and respond accordingly.
- Integrate with existing customer support systems or knowledge bases to retrieve relevant information.

4. Language Translation Chatbot:

- Create a chatbot that can translate text or provide multilingual support.
- Utilize NLP techniques like machine translation models and language detection to facilitate communication across different languages.
- Implement a user-friendly interface for users to input text and receive translated responses.