# Open AI- 40 Hours

## Overview:

Welcome to the course on Natural Language Processing and AI Applications! In this course, we will delve into the fascinating world of OpenAI technologies and explore various concepts and tools related to language processing and artificial intelligence. Through a series of comprehensive modules, you will gain the knowledge and skills necessary to work with OpenAI's cutting-edge models, with a particular focus on Chat GPT and its latest advancements. Let's take a brief look at each module and what it covers:

### Module 1: Introduction

In this module, we will provide an overview of OpenAI and its objectives. You will gain a solid understanding of Natural Language Processing (NLP) and the fundamental concepts associated with Chat GPT. We will explore key terminology, such as tokens, stop sequences, N and echo, completion models, and essential pricing considerations. Additionally, we will discuss parameters like temperature, top P, presence penalty, frequency penalty, and streaming responses, which play a vital role in optimizing the model's behavior.

### Module 2: Different Prompt

Module 2 focuses on the importance of crafting effective prompts for Chat GPT. We will explore various types of prompts, including those for summarizations, data extraction, sentiment analysis, zero-shot learning, few-shot learning, step-by-step instructions, and text transformations. By mastering the art of prompt formulation, you will be able to extract the desired information and achieve specific outcomes from the model.

### Module 3: API Parameters

This module will introduce you to the Chat API and its key features. You will learn how to structure chat requests and send properly formatted messages to the model. We will also cover the improvements brought by GPT 3.5 - TURBO and discuss the differences between completion prompts and the chat format.

Module 4: GPT 4
Module 4 introduces GPT 4, the advanced iteration of Chat GPT. We will explore the enhanced capabilities of GPT 4 as a chatbot and dive into topics such as persisting messages, incorporating optional personalities, understanding time complexity, transitioning code from JavaScript to Python, debugging code, generating code from scratch using GPT-4, estimating costs with TikToken, and leveraging an automatic code reviewer.

Module 5: Embeddings
This module focuses on embeddings and their applications. You will learn how to gather data and generate recommendations based on it. We will also cover data visualization techniques and explore how GPT 4 can be enhanced with the power of embeddings.

Module 6: DALL-E API
In Module 6, we will explore the DALL-E API, which allows for image generation and manipulation. You will learn how to make requests to DALL-E, save generated images, and perform image edits using the API's capabilities.

Module 7: Whisper: Audio to Text
This module introduces Whisper, OpenAI's audio-to-text conversion model. You will gain an understanding of its basics, learn how to provide prompts for audio transcription, explore techniques for translating audio with Whisper, transcribe non-English audio, and run the Whisper model locally.

Module 8: Fine-Tuning
In the final module, we will delve into the techniques and strategies for fine-tuning models. You will discover how to create your own models, leveraging OpenAI's frameworks and methodologies.

Throughout this course, we aim to equip you with the essential knowledge and skills to leverage OpenAI's powerful tools effectively. Whether you're interested in building intelligent chatbots, analyzing sentiment, generating code, processing audio, or creating your own models, this course will provide you with a comprehensive understanding of the concepts and techniques required. Let's embark on this exciting journey into the realm of Natural Language Processing and AI Applications!

## Course content:

### Module 1: Introduction

- OpenAI introduction
- NLP introduction
- Chat GPT introduction
- Terminology
    - Tokens
    - Stop sequence
    - N and echo
    - Completion models
    - Pricing
    - Temperature
    - Top P
    - Presence Penalty
    - Frequency Penalty
    - Streaming responses


### Module 2: Different Prompt
- Good prompt
- Summarizations Prompts
- Data extraction Prompts
- Sentiment Analysis prompt
- Zero shot prompt
- Few shot prompt
- Step by step prompt
- Text transformation prompt


### Module 3: API parameters
- Chat API
- Chat request
- Properly formatted messages
- GPT 3.5 – TURBO
- Completion prompt vs Chat format

## Module 4: GPT 4

- Chat GPT 4 chatbot
- Persisting Messages
- Adding optional personalities.
- Time complexity
- Java script to Python
- Fixing code bugs
- Generating code from scratch with GPT-4
- Cost estimation with TikToken
- Automatic code reviewer

## Module 5: Embeddings

- Getting data and create recommendations based on it
- Data visualization
- GPT4 enhancement with Embeddings

## Module 6: DALL-E API

- Making request
- Saving images
- Image edits

## Module 7: Whisper: Audio to text

- The basics of whisper
- Providing a prompt to whisper
- Translating audio with whisper
- Transcribing Non-English audio
- Running the whisper model locally

## Module 8: Fine tuning

- Techniques and Strategies
- Creation of your own model

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# מבין לקוחותינו: