

# The Future of OpenAI and LLMs



**Xavier Morera**

Helping developers create epic applications

[www.xavermorera.com](http://www.xavermorera.com) / [www.bigdatainc.org](http://www.bigdatainc.org) / [www.lupo.ai](http://www.lupo.ai)

An aerial photograph of a city at night, likely San Francisco, with a dense network of white lines overlaid across the entire image. These lines form a complex web that suggests a global network or connectivity, particularly highlighting the city's coastline and major infrastructure like the Golden Gate Bridge.

The world is changing in front of our eyes

**LLMs are here to perform a whole series of tasks close to human level.**

**Things that used to take a lot of time can now be done in a few moments with outstanding results.**



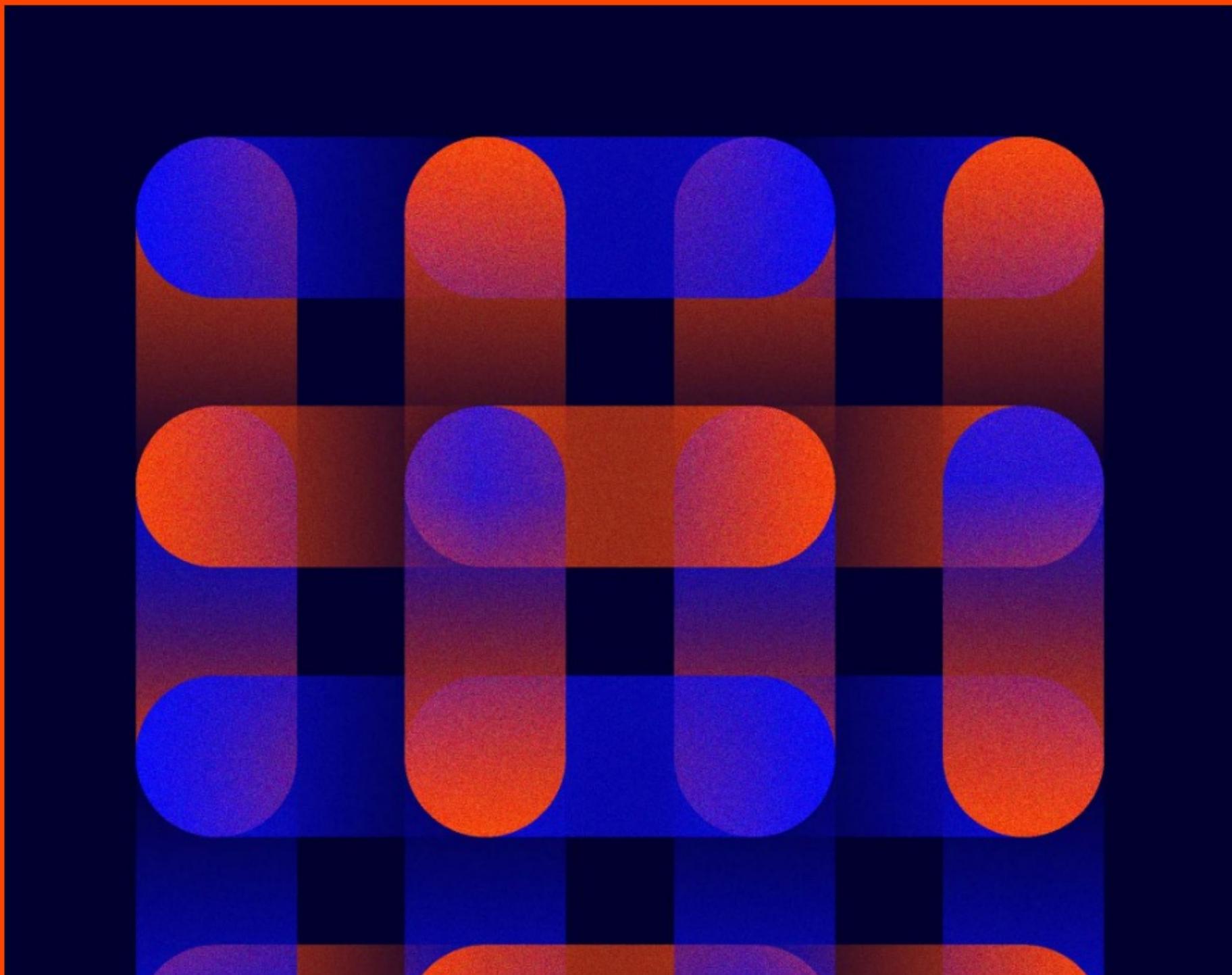
## All Types of Applications

**Content Generation, Language Translation, Code Generation, Text Summarization, Question Answering, Personal Assistants, Content Recommendations, Therapeutic Chatbots, Education and Tutoring, Creative Writing Assistance, Language Learning, Simulations and Games, Legal and Compliance Assistance, Data Extraction, Accessibility...**



# OpenAI API

We're releasing an API for accessing new AI models developed by OpenAI.

[Sign up ↗](#)[Explore the API](#)

# Ethical Considerations



**Bias and fairness**



**Privacy**



**Misinformation and disinformation**



**Content moderation**



# Ethical Considerations



**Consent**



**Intellectual property**



**Job displacement**



**Security**



# Ethical Considerations



**Deepfake detection**



**Accountability and transparency**



**Environmental impact**



**Regulatory compliance**



# Ethical Considerations



**Ethical AI research**



**Accessibility**



**Multidisciplinary approach**



**Ongoing effort**





# Exploring Open Challenges



Challenge

**Navigating the complexities  
of human communication.**



**Addressing bias detection and mitigation becomes imperative as AI language models become more integrated into daily interactions.**



## Challenge

**The diversity of languages and cultures worldwide poses a significant challenge for AI models.**



## Challenge

**The language landscape is dynamic,  
with constantly evolving trends,  
expressions, and language use.**



**Personalization is a cornerstone of AI interaction, allowing models to tailor responses to individual preferences.**



**Real-time AI interactions are a frontier that holds the promise of seamless communication.**





# The Future with NLP



# AI Models Redefine

Healthcare

Education

Entertainment



**NLP can swiftly analyze vast text corpora**



Personalized learning experiences





Custom-tailored immersive narratives

A person is seated at a desk in a futuristic control room, facing a large central screen displaying a detailed view of Earth from space. The room is filled with numerous other screens, each showing various data, graphs, and maps, primarily in shades of orange and black. The overall atmosphere is one of advanced technology and monitoring.

Industries are being revolutionized

 Search

CTRL K

## Overview

The OpenAI API is powered by a diverse set of models with different capabilities and price points. You can also make customizations to our models for your specific use case with [fine-tuning](#).

MODELS	DESCRIPTION
GPT-4	A set of models that improve on GPT-3.5 and can understand as well as generate natural language or code
GPT-3.5	A set of models that improve on GPT-3 and can understand as well as generate natural language or code
GPT base	A set of models without instruction following that can understand as well as generate natural language or code
DALL·E	A model that can generate and edit images given a natural language prompt
Whisper	A model that can convert audio into text
Embeddings	A set of models that can convert text into a numerical form
Moderation	A fine-tuned model that can detect whether text may be sensitive or unsafe
GPT-3 Legacy	A set of models that can understand and generate natural language
Deprecated	A full list of models that have been deprecated

We have also published open source models including [Point-E](#), [Whisper](#), [Jukebox](#), and [CLIP](#).

# Chatbot

Creating a basic chatbot with the OpenAI API that keeps the conversation going

```
[ ]: # !pip install openai
```

```
[ ]: import openai
import os
import json
```

```
[ ]: key_location = '/Users/xavier/github/xmorera/ps-generative-ai-developing-applications-python-openai/key/genaikey.txt'

with open(key_location, 'r') as file:
    key = file.readline().strip()
```

```
[ ]: openai.api_key = key
```

```
[ ]: chat_messages = []
```

```
[ ]: def process_chat_request(prompt):
    """Make a request to the OpenAI API"""
    chat_messages.append({"role": "user", "content": prompt})

    response = openai.ChatCompletion.create(
        model="gpt-3.5-turbo",
        messages = chat_messages,
        temperature=0.7
    )
    # Append the response to messages
```

# Machine Learning with Python - Practical Application

by Xavier Morera

Many problems are solved using Machine Learning. This course will teach you how to pick the ML algorithm that can help you create the right ML model to solve the problem at hand.

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```
In [120]: model = keras.Sequential(
    [
        layers.Flatten(input_shape=(1,)),
        layers.Dense(1, activation="linear"),
    ]
)
optimizer = keras.optimizers.SGD(learning_rate=0.1)
model.compile(loss='mse', optimizer=optimizer, metrics=['accuracy'])
history = model.fit(x_width, y_weight, epochs=10, verbose=1, validation_split=0.1, shuffle=False)
y_pred = model.predict(x_width)

Epoch 1/10
5/5 [=====] - 0s 26ms/step - loss: 0.1850 - accuracy: 0.0000e+00 - val_loss: 1.5773 - val_accuracy: 0.0000e+00
Epoch 2/10
5/5 [=====] - 0s 4ms/step - loss: 0.1162 - accuracy: 0.0000e+00 - val_loss: 1.3276 - val_accuracy: 0.0000e+00
Epoch 3/10
5/5 [=====] - 0s 4ms/step - loss: 0.1036 - accuracy: 0.0000e+00 - val_loss: 1.2344 - val_accuracy: 0.0000e+00
Epoch 4/10
5/5 [=====] - 0s 4ms/step - loss: 0.0980 - accuracy: 0.0000e+00 - val_loss: 1.1648 - val_accuracy: 0.0000e+00
Epoch 5/10
5/5 [=====] - 0s 4ms/step - loss: 0.0916 - accuracy: 0.0000e+00 - val_loss: 1.1042 - val_accuracy: 0.0000e+00
Epoch 6/10
5/5 [=====] - 0s 4ms/step - loss: 0.0852 - accuracy: 0.0000e+00 - val_loss: 1.0536 - val_accuracy: 0.0000e+00
Epoch 7/10
5/5 [=====] - 0s 4ms/step - loss: 0.0788 - accuracy: 0.0000e+00 - val_loss: 1.0130 - val_accuracy: 0.0000e+00
Epoch 8/10
5/5 [=====] - 0s 4ms/step - loss: 0.0724 - accuracy: 0.0000e+00 - val_loss: 0.9724 - val_accuracy: 0.0000e+00
Epoch 9/10
5/5 [=====] - 0s 4ms/step - loss: 0.0660 - accuracy: 0.0000e+00 - val_loss: 0.9318 - val_accuracy: 0.0000e+00
Epoch 10/10
5/5 [=====] - 0s 4ms/step - loss: 0.0596 - accuracy: 0.0000e+00 - val_loss: 0.8912 - val_accuracy: 0.0000e+00
```

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Classification	40m 32s	
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Understanding Other Types of ML Problems	7m 23s	

Course author



Xavier Morera

Xavier is very passionate about teaching, helping others understand search and Big Data. He is also an entrepreneur, project manager, technical author, trainer, and holds a few certifications with...

Course info

Level	Beginner
Rating	(13)
My rating	
Duration	1h 56m
Released	21 Dec 2021
Reviewed	31 Oct 2022

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**Thank You... And Welcome to the Future**



# Thanks for watching!



Xavier Morera

**“What you learn  
is yours for life.”**

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