

# LLMs & Prompt Engineering

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Venkata Reddy AI Classes

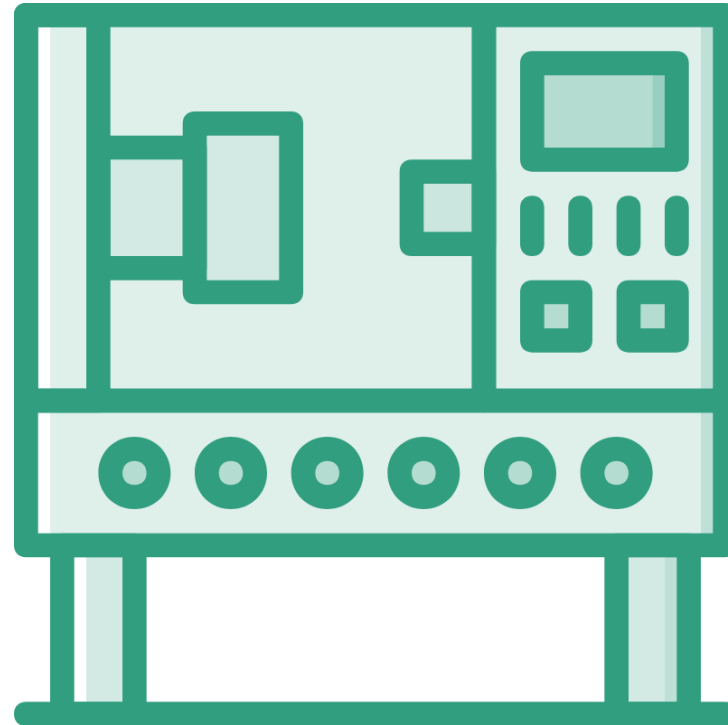
<https://www.youtube.com/@VenkataReddyAIClasses/playlists>

# Contents

- Introduction to Language Models
- What are Large Language Models (LLMs)
- Famous LLMs available today
- Using Large language Models through API
- Prompt Engineering
- Structuring a Prompt
- Tips and Tricks to use LLMs
- LLM for generating code

# Have you ever...

- Have you ever used a language model before five years?



# Have you ever seen an application of a language model before 2020?

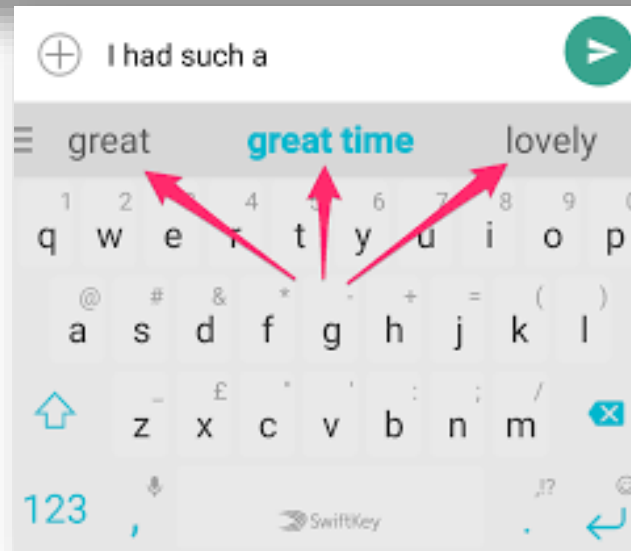


## Customers say

Customers like the display and appearance of the cellular phone. They mention that the screen is really good, with a very crisp 120 Hz super amoled display. They also like the value. However, some customers dislike the heating. Customers also differ on battery, sound quality, quality, and performance.

AI-generated from the text of customer reviews

- ✓ Value
- ✓ Display
- ✓ Appearance
- Quality
- Performance
- Battery
- Sound quality
- ✗ Heating



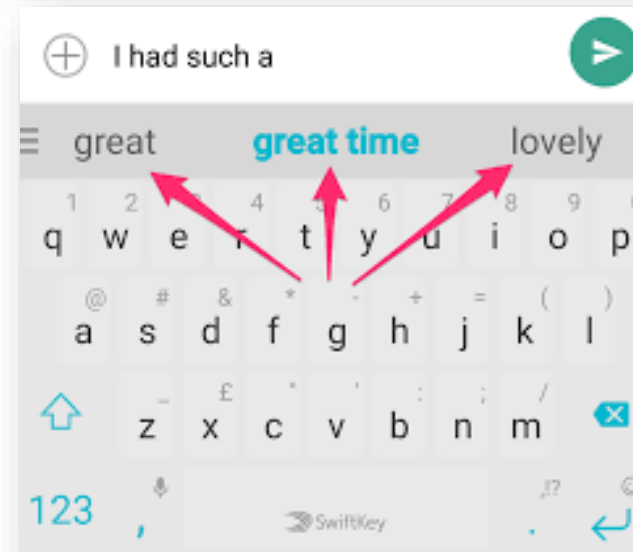
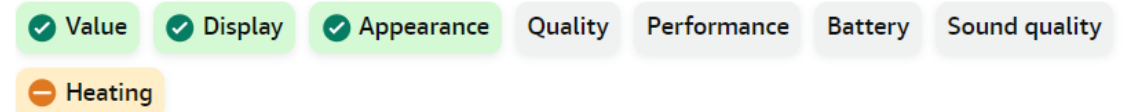
# (Small)Language Model

- A language model finds the interesting patterns in the text data and helps us in predicting or summarizing or classifying the text
- Some of the applications of Language models are
  - Taking a review as input and predicting the sentiment - Amazon
  - Predicting the next word while writing the text - Next word in your phone
  - Finding the key words in the text - Hashtag in LinkedIn
  - Chabot

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AI-generated from the text of customer reviews



# Large Language Models(LLMs)

- Large language models predict the next word in sequences.
- Functionality centers on simple prediction mechanisms.

**Oh, What a lovely**

car

weather

flower

# Why are they called Large Language Models?

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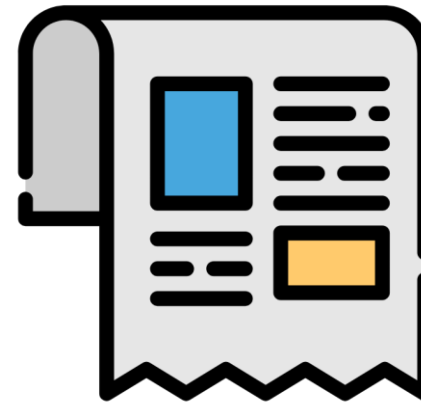
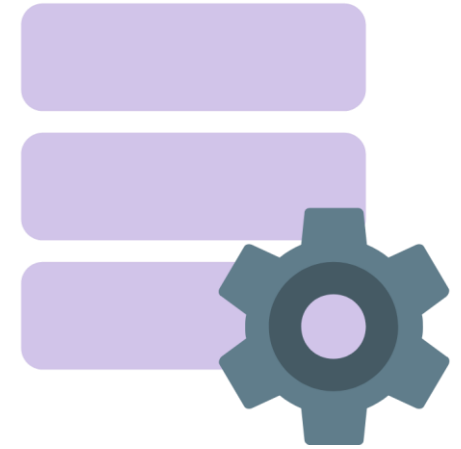
# Reason for calling them as “Large”

- A large language model is like a supercharged version of a regular language model.
- Much smarter and capable of understanding and generating more complex and human-like language.
- Large language models are called “Large” primarily because of the
  - Large amount of **Data**
  - Large number of **Parameters**
  - Large scale **Computations**



# Large amount of Data

- It has been trained on an enormous amount of data from
  - Books and literature databases.
  - Scientific articles and journals.
  - Websites
  - Blogs
  - Social media and forum discussions.
  - News
  - Dictionaries
  - Open-source datasets and repositories.



# Large number of Parameters

- These models have millions or even billions of parameters that help them do their language tasks really well.
- What is a parameter?

# Parameters in a Credit Risk Model

- A credit risk model is used in calculating the credit score of a customer.
- A credit risk model uses around 50-100 features
- Each feature has a weight, that weight is known as parameter.
- So, there are 50-100 parameters in a risk model
- Accuracy varies between 80% to 95%

Credit Score

Payment History	Record of on-time payments, late payments, and defaults.
Debt-to-Income Ratio	Ratio of monthly debt payments to monthly income.
Credit Utilization	Percentage of available credit currently being used.
Length of Credit History	How long the customer has held credit accounts.
Types of Credit	Mix of credit accounts (credit cards, loans, mortgages, etc.)
Recent Credit Inquiries	Number of recent credit applications and inquiries.
Public Records	Bankruptcies, liens, judgments, and other public records.
Total Debt	The total amount of outstanding debt.
Income	Customer's annual or monthly income.
...	...
....	...
Employment Status	Information about the customer's current job and employer.
Marital Status	Whether the customer is married, single, etc.
Housing Status	Whether the customer owns or rents their residence.
Number of Dependents	The number of dependents in the customer's household.

# Parameters in LLMs

Model	Year	Parameters	Notable Features
GPT	2018	110 million	First large-scale Transformer model
GPT-2	2019	1.5 billion	Improved Transformer model
GPT-3	2020	175 billion	One of the largest models, capable of few-shot learning
GPT-3 10x	2022	1.75 trillion	Scaled-up version of GPT-3
DALL·E 2	2022	22 billion	Scaled-up version of DALL·E

# Large scale computations

- Utilized parallel computing with thousands of GPUs/TPUs.

**WIRED**

OpenAI's CEO Says the Age of Giant AI Models Is Already Over

OpenAI has delivered a series of impressive advances in AI that works with language in recent years by taking existing machine-learning algorithms and scaling them up to previously unimaginable size. GPT-4, the latest of those projects, was likely trained using trillions of words of text and many thousands of powerful computer chips. The process cost over \$100 million.

820 crores  
INR

# Result of LLMs

- We have used Large amount of Data, Large number of Parameters and Large scale computations for building LLMs
- LLMs can now understand, interpret, and generate human-like text, surpassing previous models' capabilities.
- Particularly LLMs surprised everyone in applications
  - Generating code
  - Creative content generation
  - Sophisticated Q&A

# LLM Details

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# Famous LLMs as of today

- Have you used any of them?



LLaMA



Claude v1



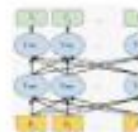
PaLM



LaMDA



Flan-UL2



BERT



PaLM 2



CodeGen



Falcon



BLOOM



Vicuña



OpenAI



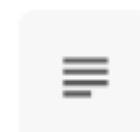
Anthropic



GPT4All



Google



WizardLM



Cohere



MPT



Guanaco



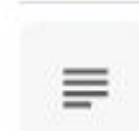
Alpaca



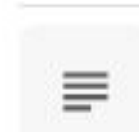
Bard



Orca



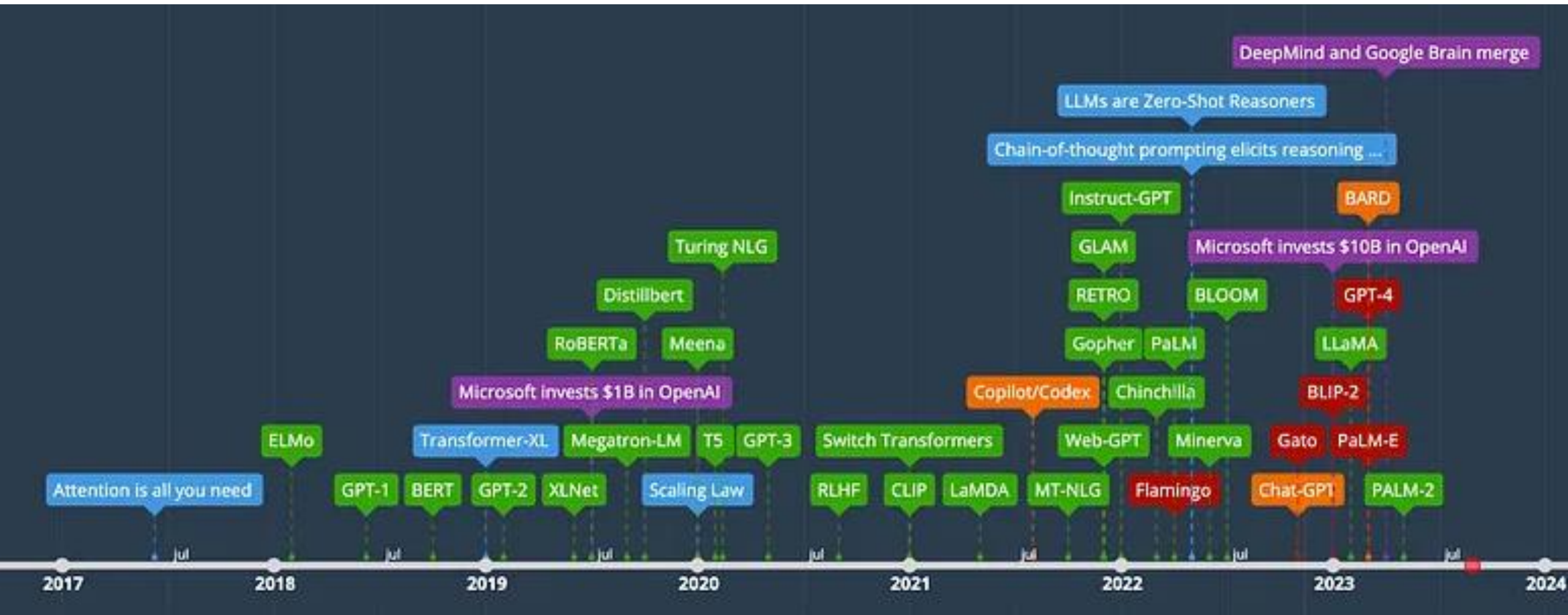
T5



StackLLaMA



# LLMs History TimeLine



# The buzz is around



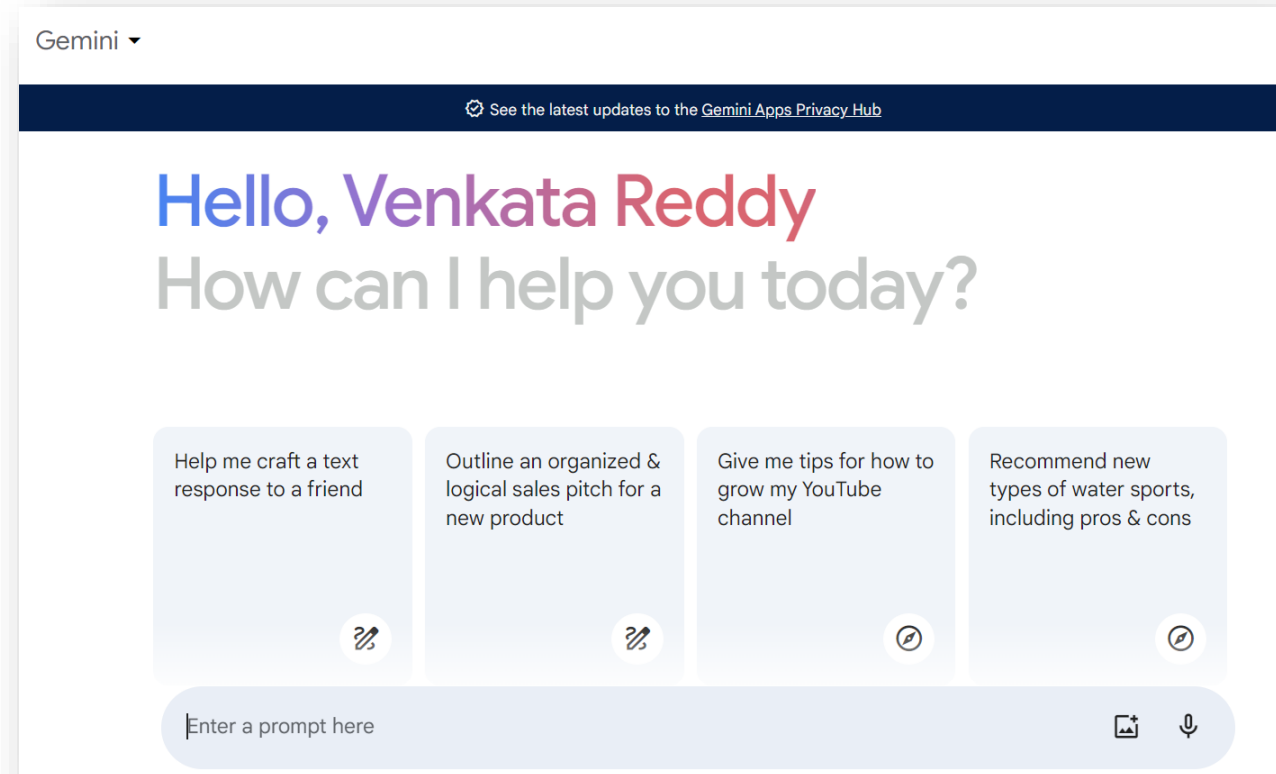
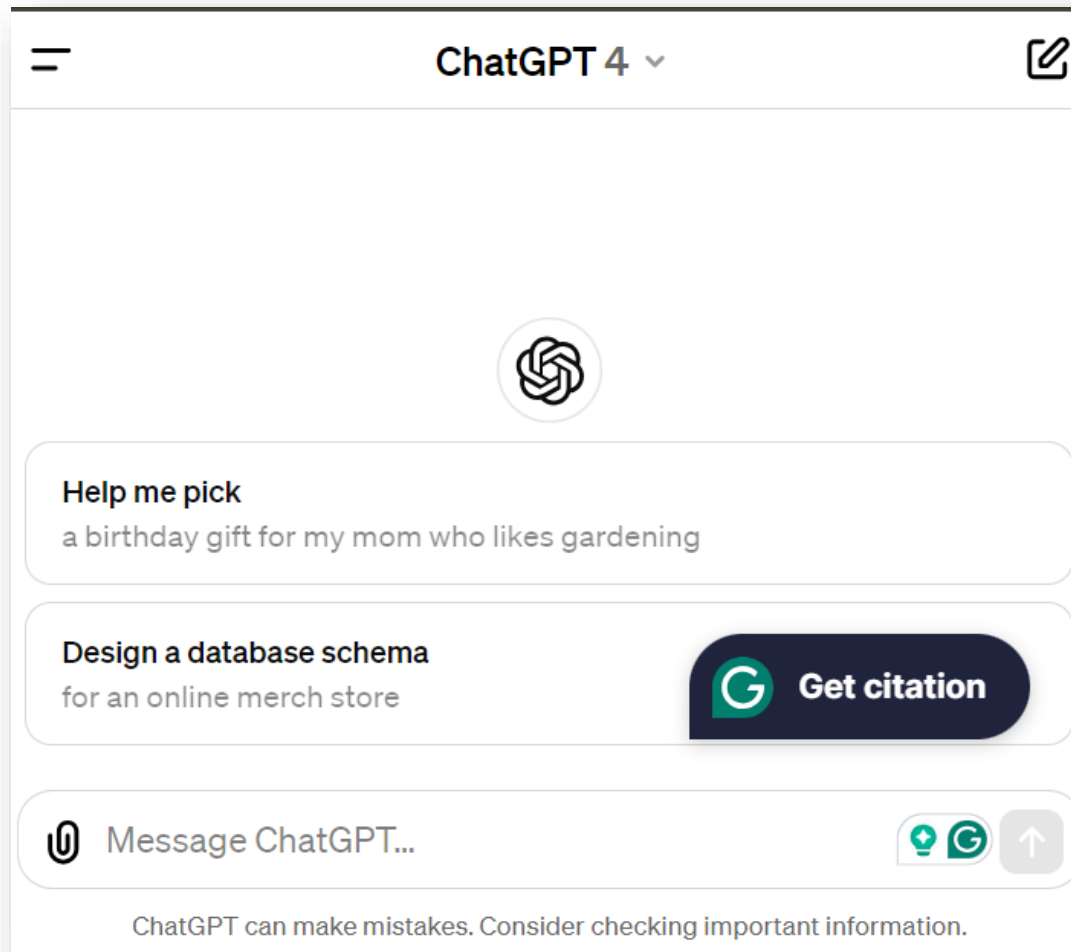
✦  
**Gemini**



# Two ways to Interact with LLMs

- 1) Using the interface or app provided by them
- 2) Using an API

# Accessing LLMs Using the interface or app



# Accessing LLMs Using the interface or app



Good evening, Venkat

What can I help you with?



Start Chat >

New in Claude

Understand and work with images



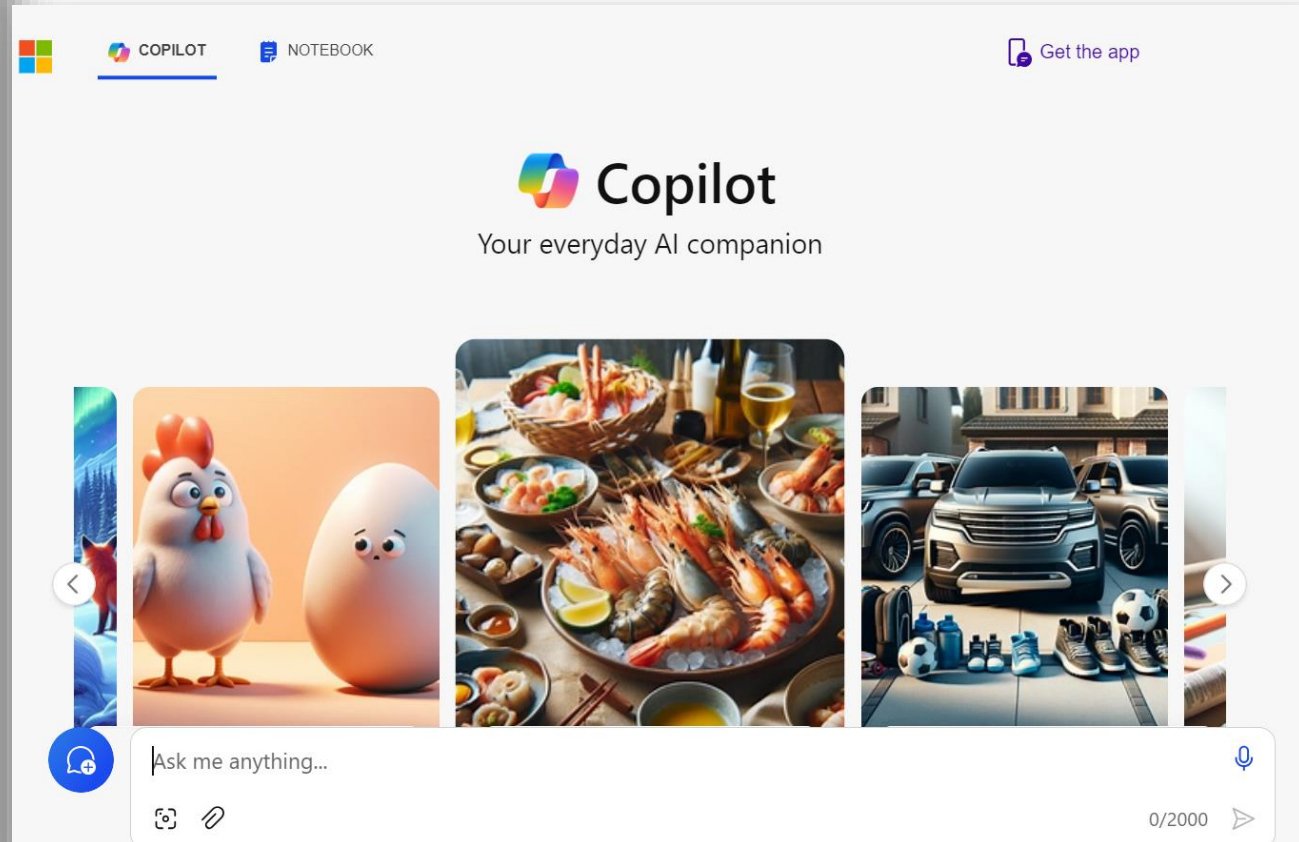
Transcribe handwritten notes



Recommend style improvements



Understand objects and how they're used



# Lets try web interface for LLMs

- Prompt-
  - According to neuroscience, what are the ten best ways to improve one's personality?

# LAB1

1. Create user accounts on OpenAI, Gemini, Copilot and Claude
2. Generate python code for drawing a filled map
3. (Optional) Summarize the distinctions between AI, ML, and GenAI in an easy-to-grasp manner. Display the output in a table format.



# Calling an LLM using an API

```
import openai
open_ai_llm = OpenAI()
result=open_ai_llm.invoke("How to increase the attention while learning anything new ?")
print(result)
```

1. Eliminate distractions: Find a quiet and comfortable place to learn without any distractions such as TV, phone, or loud noises. This will help you focus solely on the task at hand.
2. Break it down: Learning something new can be overwhelming, so break it down into smaller, manageable chunks. This will make it easier to focus on one aspect at a time and retain information better.
3. Set goals: Set clear and achievable goals for yourself. This will give you a sense of purpose and motivation to stay focused on your learning.
4. Use different learning techniques: Everyone learns differently, so try different techniques such as visual aids, note-taking, or discussing the topic with someone else. This will help keep your mind engaged and interested.
5. Take breaks: It's important to take breaks while learning to avoid mental fatigue. Take short breaks every 45-60 minutes to do something relaxing such as taking a walk or listening to music.



# OpenAI API is NOT Free

This is sufficient to explore all the concepts and applications around LLMs and GenAI

Model	Input	Output
gpt-3.5-turbo-0125	\$0.50 / 1M tokens	\$1.50 / 1M tokens
gpt-3.5-turbo-instruct	\$1.50 / 1M tokens	\$2.00 / 1M tokens

Model	Input	Output
gpt-4	\$30.00 / 1M tokens	\$60.00 / 1M tokens
gpt-4-32k	\$60.00 / 1M tokens	\$120.00 / 1M tokens

# Is OpenAI costly?

Model	Input	Output
gpt-3.5-turbo-0125	\$0.50 / 1M tokens	\$1.50 / 1M tokens
gpt-3.5-turbo-instruct	\$1.50 / 1M tokens	\$2.00 / 1M tokens

This is sufficient to explore all the concepts and applications around LLMs and GenAI

- With 10 dollars we can play with nearly 15 million input and output tokens.
- Imagine if an average question(interaction) has 1000 tokens, then we can interact **15,000 times**. -It is not very expensive

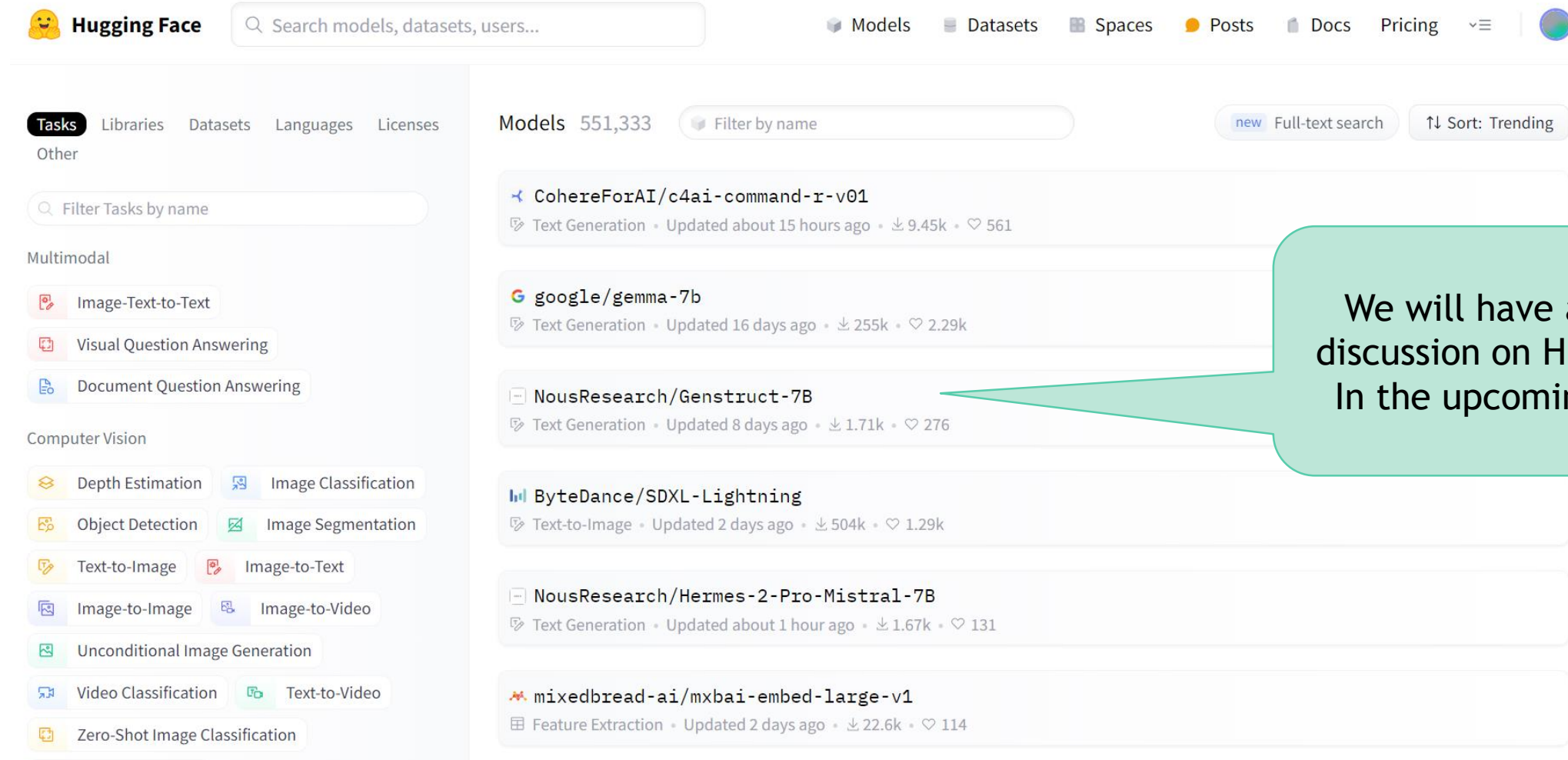
# Accessing Opensource LLM APIs

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# What are the opensource LLMs?

- What are the opensource LLMs?
- How to access them using APIs?
- Where to find them?
- Where can we find the documentation ?
- Is there any repository where I can find all the LLMs ? - Yes
- **Hugging Face**

# Hugging Face



The screenshot shows the Hugging Face homepage. At the top, there's a navigation bar with the Hugging Face logo, a search bar, and links to Models, Datasets, Spaces, Posts, Docs, Pricing, and a user profile icon. Below the navigation bar, the left sidebar contains a 'Tasks' section with a search bar and a list of task categories: Multimodal (Image-Text-to-Text, Visual Question Answering, Document Question Answering) and Computer Vision (Depth Estimation, Image Classification, Object Detection, Image Segmentation, Text-to-Image, Image-to-Text, Image-to-Image, Image-to-Video, Unconditional Image Generation, Video Classification, Text-to-Video, Zero-Shot Image Classification). The main content area displays a list of models under the 'Models' tab, with 551,333 models available. The list is filtered by name and sorted by trending. The models shown are: CohereForAI/c4ai-command-r-v01, google/gemma-7b, NousResearch/Genstruct-7B, ByteDance/SDXL-Lightning, NousResearch/Hermes-2-Pro-Mistral-7B, and mixedbread-ai/mxbai-embed-large-v1. A green speech bubble points to the 'NousResearch/Genstruct-7B' model entry.

**Hugging Face** Search models, datasets, users...

Models Datasets Spaces Posts Docs Pricing

**Tasks** Libraries Datasets Languages Licenses Other

Filter Tasks by name

Multimodal

- Image-Text-to-Text
- Visual Question Answering
- Document Question Answering

Computer Vision

- Depth Estimation
- Image Classification
- Object Detection
- Image Segmentation
- Text-to-Image
- Image-to-Text
- Image-to-Image
- Image-to-Video
- Unconditional Image Generation
- Video Classification
- Text-to-Video
- Zero-Shot Image Classification

**Models** 551,333 Filter by name new Full-text search ↑ Sort: Trending

- CohereForAI/c4ai-command-r-v01**  
Text Generation • Updated about 15 hours ago • 9.45k • 561
- google/gemma-7b**  
Text Generation • Updated 16 days ago • 255k • 2.29k
- NousResearch/Genstruct-7B**  
Text Generation • Updated 8 days ago • 1.71k • 276
- ByteDance/SDXL-Lightning**  
Text-to-Image • Updated 2 days ago • 504k • 1.29k
- NousResearch/Hermes-2-Pro-Mistral-7B**  
Text Generation • Updated about 1 hour ago • 1.67k • 131
- mixedbread-ai/mxbai-embed-large-v1**  
Feature Extraction • Updated 2 days ago • 22.6k • 114

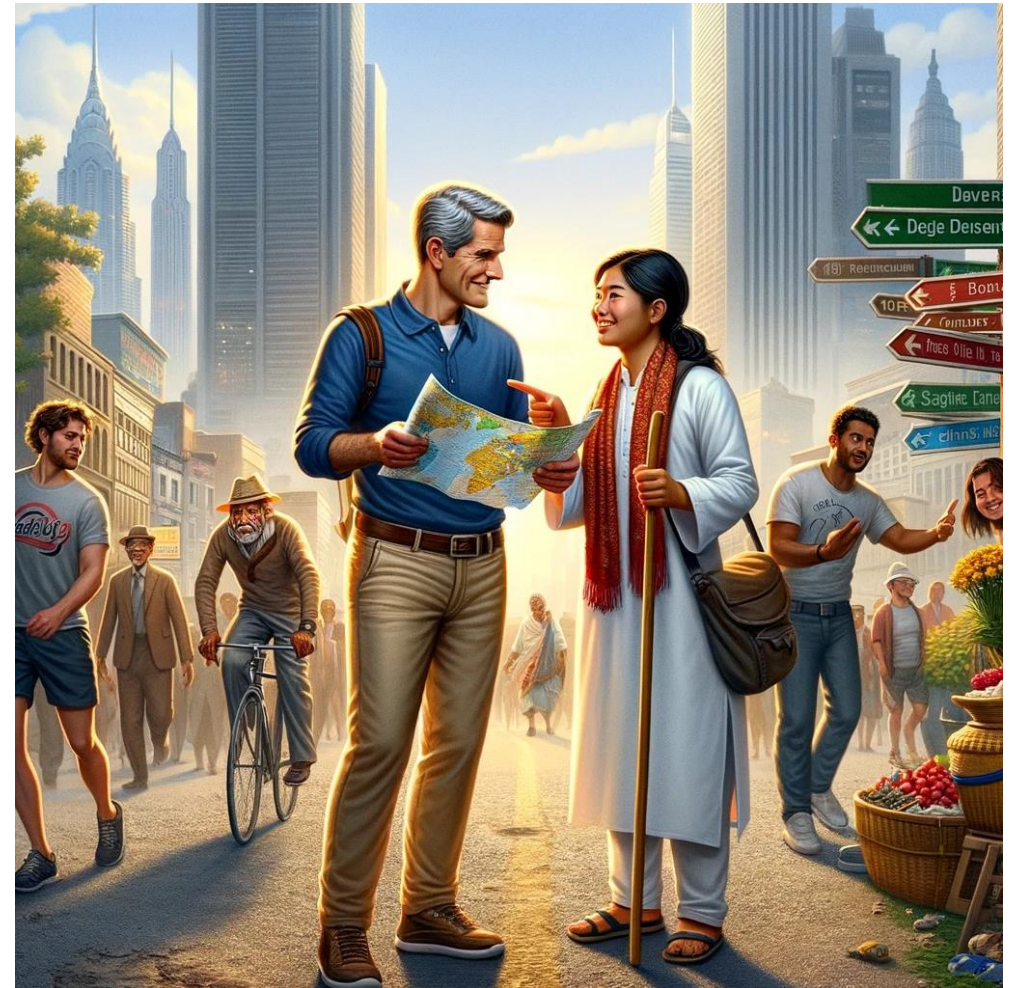
We will have a detailed discussion on Hugging Face In the upcoming sessions

# Prompt Engineering

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# Asking for Directions to GPS

- Travel in the past often involved asking people for directions, especially in cities.
- Nowadays, Google Maps or GPS are commonly used, eliminating the need to ask others.
- Relying on the old method of asking for directions is considered outdated.
- The approach to reaching destinations has evolved significantly.





# Googling to LLMs

- Until now, we have Googled to get our answers.
- With the advent of Large Language Models (LLMs), obtaining answers has become much easier.
- ChatGPT and BARD are few examples of LLMs
- Not utilizing LLMs effectively is now seen as being behind the times.
- The method of searching for answers has undergone a significant change.





# Prompt is not same as Google Search String

- Input text to these LLMs is known as “Prompt”
- Keep in mind that the quality of the results you receive is directly proportional to the quality of the prompt you provide.
- “Chat-GPT Prompt” is NOT same as “Google Search String”
- Consider the prompt not merely as a query but more as a conversation with Chat GPT.
- Instead of treating it like a Google search, think of it as a robotic assistant that needs clear, specific information to assist you effectively.
- Avoid the brief, small queries or phrases typically used in Google searches
- You need to structure your prompt

# Prompt Engineering - Meticulously designing a prompt

- The process of meticulously designing a prompt by incorporating all essential information and relevant elements is termed 'prompt engineering'.
- This involves not only the inclusion of specific instructions and questions but also carefully considering the context, intended tone, and any examples that might guide the model more effectively.
- Effective prompt engineering also requires anticipating potential ambiguities and refining the prompt to be as clear and concise as possible.

# Typical and standard method

---



You

## How to become a data scientist?



### ChatGPT

Becoming a data scientist involves a mix of formal education, skill development, and practical experience. Here's a step-by-step guide to help you embark on this career path:

#### 1. Educational Background:

- **Bachelor's Degree:** Ideally in a related field like computer science, statistics, mathematics, or engineering.
- **Postgraduate Education** (Optional but beneficial): A Master's or Ph.D. in Data Science, Statistics, Machine Learning, or a related field can be very helpful.

#### 2. Learn Key Skills:

- **Programming Languages:** Proficiency in Python or R is essential. SQL is also important for database management.
- **Statistics and Mathematics:** Understanding probability, statistics, and linear algebra is crucial for data modeling and analysis.
- **Machine Learning:** Familiarize yourself with basic ML algorithms and concepts.
- **Data Wrangling:** Learn to clean and preprocess data efficiently.
- **Data Visualization:** Skills in tools like Tableau, Matplotlib, or Seaborn for communicating data insights.

#### 3. Practical Experience:

- **Projects:** Work on real-world projects or datasets. Kaggle competitions are a good place to start.
- **Internships:** Gain practical experience and industry knowledge through internships.

#### 4. Specialize:

- Data science is a broad field. You might want to specialize in areas like machine learning, deep learning, natural language processing, or big data technologies.

#### 5. Soft Skills:

- **Communication:** Ability to explain complex results to non-technical stakeholders.
- **Problem-Solving:** Skills in identifying, analyzing, and solving problems.
- **Business Acumen:** Understanding the business context for data-driven decision making.

#### 6. Build a Portfolio:

- Showcase your skills and projects on platforms like GitHub. This portfolio is crucial for job applications.

#### 7. Networking and Community Involvement:

- Join data science communities, attend webinars, and participate in hackathons and meetups.

#### 8. Job Applications:

- Start applying for data science positions. Tailor your resume and cover letter for each application, highlighting relevant skills and experiences.

#### 9. Continuous Learning:

- The field of data science is ever-evolving. Stay updated with the latest tools, technologies, and trends in the industry.

#### 10. Ethics in Data Science:

- Understand and adhere to ethical practices in data handling and analysis.

Remember, there's no single path to becoming a data scientist. The field values skills and practical experience highly, so even non-traditional educational backgrounds can lead to successful careers in data science, provided you have the requisite skills and experience.



You

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- This is known as **zero-shot prompting**
- Asking the model directly, without examples or structure

on platforms like GitHub. This portfolio is crucial

ment:

tend webinars, and participate in hackathons

- Start applying for data science positions. Tailor your resume and cover letter for each application, highlighting relevant skills and experiences.

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Remember, there's no single path to becoming a data scientist. Continuous learning and practical experience highly lead to successful careers in data science.

Usually results in a very generic output

# Zero-Shot prompt - Examples

- E-Learning
  - What is NLP?
  - How to learn Generative AI?
- Coding
  - Python basic examples
- Personal Finance
  - How to earn money in the stock market?
- Health
  - What is a good diet plan?
- Business
  - Write a deadline extension mail to my client.
- Literature
  - Write a poem for my teacher

# Zero-Shot prompt - Issues

- E-Learning
  - Explain to me - NLP? - ChatGPT doesn't know whether you are a beginner or an expert
  - How to learn Generative AI?
- Coding
  - Python basic examples -is it for a developer and data scientist?
- Personal Finance
  - How to earn money in the stock market? - Very generic request
- Health
  - What is a good diet plan? - Depends on Gender, Location, Age
- Business
  - Write a deadline extension mail to my client.
- Literature
  - Write a poem for my teacher

# Zero-Shot prompt - Issues

- With the Zero-Shot prompt, there's an absence of **context, examples, or a specified tone**.
- This typically leads to responses that are
  - Quite broad
  - Unspecific
  - Generic
  - Repetitive output
- In many cases, the outcomes are not particularly useful



# Improvement from zero-shot prompting

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# Structuring the prompt – 5 Elements

1. **Roleplaying** : Character Insight/ Persona/ Field Expert!
  - Ask Chat GPT to take the role as an expert
2. **Examples** : Exceptions / Inclusions and Exclusions!
  - Give some examples of what need to be included and excluded
3. **Domain and the Context** : Background / Setup/ Context!
  - Explain the context in depth, set the background carefully
4. **Display of the output**: Size, Structure, and Format of the output!
  - Do you want the output in a tabular format or bullet points or code format
5. **Iterations**: Refinements/ Regenerations / Improvements
  - Iteration for refining the AI's response to align more closely with the specific requirements

# 1. Role Playing

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# Roleplaying : Character Insight/ Personal Analytics Field Expert!

- Instruct ChatGPT to step into the shoes of an expert.
- For instance, if your query pertains to coding, request that ChatGPT immerse itself in the role of a seasoned software engineer with a decade of experience.
- Similarly, if you seek advice on a diet plan, prompt ChatGPT to embody the expertise of a certified nutritionist.

# Roleplaying : Character Insight/ Personal Analytics

## Field Expert!

Basic Prompts	After adding Roleplaying part
Explain to me - NLP?	<b>Put yourself in the shoes of an NLP expert</b> with extensive experience and provide me with an explanation of NLP.
How to learn Generative AI?	<b>Imagine you are an expert in Generative AI and related fields</b> with extensive knowledge. Share insights on how one can effectively learn Generative AI.
Python basic examples	<b>Put yourself in the shoes of a seasoned Python developer with extensive knowledge.</b> Share some foundational Python examples that are essential for beginners to grasp the language effectively.
How to earn money in the stock market?	<b>Imagine you are an experienced stock market expert with a proven track record.</b> Provide valuable insights and strategies on how individuals can effectively earn money in the stock market.

# Roleplaying : Character Insight/ Personalized Analytics Field Expert!

Basic Prompts	After adding Roleplaying part
What is a good diet plan?	<b>Imagine you are a certified nutritionist with extensive expertise.</b> Provide personalized guidance on what constitutes a highly effective and tailored diet plan
Write a deadline extension mail to my client.	<b>Imagine you are a seasoned business communication expert with years of experience.</b> Craft a professional and persuasive email to request a deadline extension from your client
Write a poem for my teacher	<b>Imagine you are a skilled poet</b> and wish to compose a heartfelt poem dedicated to a respected teacher.

# Roleplaying – More Examples

- **Medicine**
  - Visualize yourself as a respected neurologist known for diagnosing rare disorders.
  - Imagine you are a senior surgeon renowned for performing complex heart surgeries.
  - Picture being a medical researcher with expertise in vaccine development.
- **Finance:**
  - Picture yourself as a seasoned financial analyst with a track record of accurate predictions.
  - Envision being a respected investment banker known for successful mergers.
  - Imagine you are a tax consultant who has saved clients millions in deductions.
- **Marketing:**
  - Pretend to be a marketing guru behind viral advertising campaigns.
  - Imagine you are a branding expert known for redefining company identities.
  - Picture yourself as a digital marketing strategist with a string of successful campaigns.

## **2.Examples : Exceptions / Inclusions and Exclusions!**

---



# Include some Examples

- Demonstrate to the ChatGPT a few examples as inputs and instruct it to use these examples as a guide to respond to questions.
- This process, known as **few-shot prompting**, involves supplying the AI with a limited number of examples or "shots" that illustrate the task you want it to perform.
- Through this approach, the AI learns and adapts based on these examples.
- For example, if we give two examples of the customer feedback and classify them as positive or negative, the third example will be automatically classified by ChatGPT

# Include some Examples = few-shot prompting

Input- Overall okay. Biryani was not as good. The rest of the items were good.  
Kadai paneer we found it to be too high a price for the quantity served.  
Ambiance is nice

Output - Positive - High Price

Two examples(shots) are  
given to chatGPT

Input- There's no menu card. staff to say the menu card so that the customer feels uncomfortable asking for everything. Overall taste wise just average and overhyped and on overpriced.

Output - Negative - Menu Card issue

Input- I never leave this place disappointed. All the dishes are good and well served. The staff is attentive and suggests good menu options

What is the Output ?

# Include some Examples



You

Overall okay. Biryani was not as good. The rest of the items were good. Kadai paneer we found it to be too high a price for the quantity served. Ambience is nice ---> Positive  
- High Price

There's no menu card. staff to say the menucard so that the customer feels uncomfortable asking for everything. Overall taste wise just average and overhyped and on overpriced. ---> Negative - Menu Card issue

Inever leave this place disappointed. All the dishes are good and well served. Staff is attentive and suggest good menu options --->



ChatGPT

Positive - Excellent Service and Food Quality

# Include some Examples

## French Fries

// High in unhealthy trans fats, sodium  
365 (medium serving)

## Potato Chips

// High in unhealthy fats (saturated and  
trans fats), sodium  
150-160 (per ounce)

## Soda (e.g., Cola)

// High in added sugars  
140-150 (12 oz can)

Fill the below examples

## Candy (e.g., Gummy Bears)

//

## Burgers (Fast Food)

//

## Pizza (Fast Food)

//

### 1. French Fries:

- High in unhealthy trans fats and sodium.
- A medium serving typically contains around 365 calories.

### 2. Potato Chips:

- High in unhealthy fats (saturated and trans fats) and sodium.
- The calorie count for potato chips can vary, but it's typically around 150-160 calories per ounce.

### 3. Soda (e.g., Cola):

- High in added sugars.
- A 12 oz can of soda typically contains around 140-150 calories.

### 4. Candy (e.g., Gummy Bears):

- Gummy bears and similar candies are generally high in sugar and provide little to no nutritional value.
- The calorie count can vary depending on the serving size and brand.

### 5. Burgers (Fast Food):

- Fast food burgers can vary widely in terms of calories and nutritional content.
- They often contain high levels of saturated fat, sodium, and calories. The calorie count can range from a few hundred to over a thousand calories per burger, depending on the size and toppings.

### 6. Pizza (Fast Food):

- Fast food pizza can also vary in terms of calories and nutritional content.
- It tends to be high in calories, saturated fat, and sodium. The calorie count can vary significantly based on the size, type of crust, and toppings.

# Include some Examples

Complete the below workout plan for 6 days a week

## Day-1: Chest

Push-Ups - 2 Sets - 15 reps

Chest Flyes - 2 Sets - 15 reps

Bench Press - 2 sets - 15 reps

## Day-2: Shoulders



### ChatGPT

Certainly, here's a complete 6-day workout plan with a focus on different muscle groups for each day:

#### Day 1: Chest

1. Push-Ups - 3 Sets - 15 reps
2. Chest Flyes - 3 Sets - 12 reps
3. Bench Press - 3 Sets - 10 reps

#### Day 2: Shoulders

1. Seated Dumbbell Shoulder Press - 3 Sets - 12 reps
2. Lateral Raises - 3 Sets - 15 reps
3. Front Raises - 3 Sets - 12 reps

#### Day 3: Back

1. Pull-Ups or Lat Pulldowns - 3 Sets - 12 reps
2. Bent Over Rows - 3 Sets - 12 reps
3. Deadlifts - 3 Sets - 10 reps

#### Day 4: Legs

1. Squats - 3 Sets - 12 reps
2. Lunges - 3 Sets - 12 reps (each leg)
3. Leg Press - 3 Sets - 12 reps

#### Day 5: Arms

1. Bicep Curls - 3 Sets - 12 reps
2. Tricep Dips - 3 Sets - 12 reps
3. Hammer Curls - 3 Sets - 12 reps
4. Skull Crushers - 3 Sets - 12 reps

#### Day 6: Core

1. Planks - 3 Sets - Hold for 30-45 seconds
2. Russian Twists - 3 Sets - 15 reps (each side)
3. Leg Raises - 3 Sets - 12 reps

#### Day 7: Rest

# 3. Domain and Context

---

# Domain and Context

Put yourself in the shoes of a seasoned Python developer with extensive knowledge. Give me the learning path for becoming a **Python developer** in five short steps



## ChatGPT

Certainly, here's a learning path for becoming a Python developer in five concise steps from the perspective of an experienced Python developer:

1. **Master the Basics:** Begin with a deep understanding of Python's fundamentals, including variables, data types, control structures (if statements, loops), and functions. Practice coding to build a solid foundation.
2. **Object-Oriented Programming (OOP):** Delve into OOP principles as Python is an object-oriented language. Learn about classes, objects, inheritance, and polymorphism to structure your code effectively.
3. **Data Structures and Algorithms:** Study essential data structures (lists, dictionaries, sets, etc.) and algorithms (sorting, searching) to write efficient and optimized Python code. Practice problem-solving on platforms like LeetCode or HackerRank.
4. **Web Development or Data Science:** Depending on your career goals, choose a specialization path. For web development, explore popular frameworks like Django or Flask. For data science, focus on libraries like NumPy, Pandas, and Matplotlib.
5. **Real-World Projects and Collaboration:** Apply your skills to real-world projects. Contribute to open-source projects, collaborate with other developers, and continuously learn by working on challenging tasks. Stay updated with Python's evolving ecosystem.



# Domain and Context

Put yourself in the shoes of a seasoned Data Scientist with extensive knowledge. Give me the learning path for Python to become a data scientist in five steps

Compare this output with the previous output



## ChatGPT

Certainly, here's a learning path for becoming a Data Scientist using Python in five steps from the perspective of an experienced Data Scientist:

### 1. Master Python Fundamentals:

- Start by becoming proficient in Python programming. Learn about variables, data types, control structures (if, loops), and functions. Python is the primary language used in data science, so a strong foundation is crucial.

### 2. Data Manipulation and Analysis:

- Dive into libraries like NumPy and Pandas for data manipulation and analysis. Learn how to load, clean, and preprocess data effectively. Practice working with data frames, arrays, and statistical operations.

### 3. Data Visualization:

- Explore data visualization tools and libraries such as Matplotlib and Seaborn. Understand how to create informative plots and charts to convey insights from your data.

### 4. Machine Learning and Statistics:

- Study machine learning concepts, algorithms, and libraries like Scikit-Learn. Learn about supervised and unsupervised learning, regression, classification, and clustering. Dive into statistical analysis to understand the data distribution and make informed decisions.

### 5. Real-World Projects and Domain Knowledge:

- Apply your knowledge to real-world data science projects. Work on personal projects or contribute to open-source ones. Additionally, gain domain-specific knowledge in the field you want to specialize in, such as healthcare, finance, or marketing.



# Domain and Context

Suggest a good diet plan



ChatGPT

I can provide you with a general framework for a healthy diet plan, but please keep in mind that individual dietary needs can vary based on factors such as age, gender, activity level, and any specific health conditions you may have. It's always a good idea to consult with a healthcare professional or registered dietitian before making significant changes to your diet. Here's a basic outline of a balanced diet:

1. **Fruits and Vegetables:** Aim to fill half your plate with a variety of colorful fruits and vegetables. They are rich in vitamins, minerals, antioxidants, and fiber. Include a wide range of options to get different nutrients.
2. **Protein:** Include lean sources of protein in your diet. This can come from sources like poultry, fish, lean meats, tofu, beans, lentils, and nuts. Fish, particularly fatty fish like salmon and mackerel, are excellent sources of omega-3 fatty acids.
3. **Whole Grains:** Choose whole grains over refined grains whenever possible. Examples of whole grains include brown rice, quinoa, whole wheat bread, oats, and barley. They provide more fiber and nutrients compared to refined grains.
4. **Dairy or Dairy Alternatives:** If you consume dairy, choose low-fat or fat-free options. If you're lactose intolerant or prefer non-dairy alternatives, options like almond milk, soy milk, and coconut yogurt are available.
5. **Healthy Fats:** Include sources of healthy fats in your diet, such as avocados, nuts, seeds, and olive oil. These fats are beneficial for heart health and overall well-being.
6. **Limit Added Sugars:** Minimize your consumption of foods and drinks high in added sugars, such as sugary beverages, candies, and desserts. Pay attention to food labels to identify hidden sugars.
7. **Portion Control:** Be mindful of portion sizes to avoid overeating. Use smaller plates, and pay attention to your body's hunger and fullness cues.

# Domain and Context

Imagine you are a certified nutritionist with extensive expertise. Provide personalized guidance on what constitutes a highly effective and tailored diet plan. I live in South India. I am a Male. My age is 38. My height is 5.8 and My weight is 73kg.

Compare this output with the previous output

As a certified nutritionist, I can provide you with some personalized guidance for a highly effective and tailored diet plan based on your age, gender, location in South India, height, and weight. However, please note that it's always best to consult with a healthcare professional or registered dietitian for a comprehensive and individualized plan. Here's a general diet plan to get you started:

## **Breakfast:**

- Start your day with a nutritious breakfast.
- Include options like idli, dosa (preferably whole-grain), poha, or upma made with minimal oil.
- Add a side of sambar or coconut chutney for flavor and added nutrients.
- Incorporate a serving of fresh fruits, like a banana or papaya.

## **Mid-Morning Snack:**

- Have a small portion of nuts or seeds for a healthy snack. Almonds or walnuts are good choices.
- You can also enjoy a cup of buttermilk or coconut water.

## **Lunch:**

- Opt for a balanced lunch that includes whole grains, lean protein, and plenty of vegetables.
- Have a serving of brown rice or millets like ragi or bajra.
- Include a source of protein like lentils (dal), fish, or lean chicken.
- Load up on vegetables, such as spinach, carrots, and cucumber.
- Use minimal oil and spices in your cooking.
- Finish your meal with a serving of yogurt or curd.

## **Afternoon Snack:**

- A light snack can help keep your energy levels steady.
- Consider having a fruit salad, a handful of roasted chickpeas, or a vegetable soup.

## **Dinner:**

- Keep your dinner relatively light.
- Include a variety of vegetables and a small portion of whole grains.
- Opt for options like vegetable curry with chapati or a simple khichdi.
- Avoid heavy or rich dishes before bedtime.

## **Before Bed:**

- If you feel hungry before bedtime, have a glass of warm milk or a herbal tea like chamomile.

# Domain and Context

Assume you're an experienced investment banker and stock analyst teaching a class on long-term investing. Could you explain the key factors or ratios that are crucial for evaluating stocks for long-term investment? List these in a short and an easy-to-understand format suitable for beginners.

Certainly! Here are the key factors and ratios for evaluating stocks for long-term investment in a concise and beginner-friendly format:

1. **Earnings Per Share (EPS):** Look for growing and consistent profits per share.
2. **Price-to-Earnings Ratio (P/E Ratio):** Lower P/E ratios can indicate better value.
3. **Dividend Yield:** Higher yields provide regular income for investors.
4. **Debt-to-Equity Ratio:** Lower debt levels suggest financial stability.
5. **Return on Equity (ROE):** Higher ROE reflects effective use of shareholder equity.
6. **Market Capitalization:** Consider companies of various sizes based on your risk tolerance.
7. **Competitive Advantage (Moat):** Seek companies with a sustainable edge in their industry.
8. **Management Quality:** Research the leadership team's track record.
9. **Industry and Market Trends:** Understand the industry's growth potential.
10. **Diversification:** Spread risk by investing in different stocks and sectors.
11. **Long-Term Prospects:** Consider a company's ability to adapt and grow.
12. **Valuation Relative to Peers:** Compare with similar companies in the industry.

# Domain and Context

Explain the philosophy of BhagwatGeeta to a 12 years old kid in 5 points

Certainly! Here's an explanation of the philosophy of the Bhagavad Gita in 5 simple points for a 12-year-old

**1.Duty and Responsibility:** The Bhagavad Gita teaches us about the importance of doing our duties and responsibilities sincerely, without worrying too much about the results. It's like doing your homework or chores because it's the right thing to do, not just for rewards or praise.

**2.Inner Peace:** The Gita tells us that finding inner peace and calmness is essential. It teaches us to control our mind and emotions, like handling your feelings when things don't go your way, and finding balance in life.

**3.Self-Discovery:** It encourages us to understand who we are and what our true self is. This means knowing your strengths, weaknesses, and values, which helps make better decisions in life.

**4.Equality and Respect:** The Gita teaches that all people are equal and should be treated with kindness and respect, regardless of their background or appearance. It's like being friendly to everyone at school.

**5.Spirituality:** Finally, the Gita talks about connecting with a higher power or inner spirituality. It's like feeling a sense of wonder about the world and understanding that there's something bigger than ourselves.

So, the Bhagavad Gita teaches us to do our best, stay calm, understand ourselves, be kind to others, and explore our inner world and spirituality. It's like a guide to living a good and meaningful life.

# To change the context – Ignore previous chats

1. "Clear previous context and start fresh."
2. "Ignore previous messages and focus on the following instructions."
3. "Begin a new conversation with the following questions:"
4. "Reset the chat and provide responses based on the following input:"
5. "Let's start from scratch with the following discussion topics:"



You

Ignore all the previous chats



ChatGPT

Of course, feel free to ask your question or provide the information you need, and I'll assist you from there.



You

Start a new conversation.



ChatGPT

Of course! I'm here to help with any questions or instructions you have. What would you like to discuss or ask about today?

# 4. Display and Format

---

# Display the output

- You Can display the output in many different formats
  - Bullet Points & Numbered Lists
  - Tabular Values
  - Sections and Subsections
  - Code Blocks & Math Equations
  - Quotes or Dialogues
  - Labels and Annotations

# Display the output - Lists and Bullet points



You

List the top attractions in Paris, France,. Give the list only. Do not include any explanations.



ChatGPT

1. Eiffel Tower
2. Louvre Museum
3. Notre-Dame Cathedral
4. Montmartre and Sacré-Cœur Basilica
5. Champs-Élysées and Arc de Triomphe
6. Seine River Cruises
7. Palace of Versailles
8. Musée d'Orsay
9. Luxembourg Gardens
10. The Pompidou Center (Centre Pompidou)

List the top attractions in Paris, France,. Give the list only. Do not include any explanations.



# Display the output - Lists and Bullet points



ChatGPT

Certainly! Here are key personality traits that contribute to success presented in a concise bullet-point format:

- **Determination:** The ability to stay focused on goals and persist through challenges.
- **Resilience:** Bouncing back from setbacks and adapting to adversity.
- **Self-discipline:** The capacity to control impulses and maintain a strong work ethic.
- **Optimism:** A positive outlook on life and the belief in one's ability to achieve goals.
- **Adaptability:** Being open to change and able to adjust to new circumstances.
- **Leadership:** The ability to inspire and influence others to achieve common objectives.
- **Problem-solving:** Analyzing situations and finding effective solutions.
- **Creativity:** Thinking outside the box and generating innovative ideas.
- **Effective communication:** The skill to convey thoughts and ideas clearly and persuasively.
- **Empathy:** Understanding and relating to the feelings and perspectives of others.
- **Time management:** Efficiently utilizing time and prioritizing tasks.
- **Persistence:** Refusing to give up in the face of obstacles.

List key personality traits that contribute to success, and present them in a concise bullet point format.

# Display the output - Lists and Bullet points



ChatGPT

Certainly! Here are five effective study techniques to help improve memory retention:

1. **Active Recall:** This involves actively testing yourself on the material you're studying rather than simply rereading or passively reviewing notes. Try to recall key concepts and facts from memory, which strengthens your ability to remember them later.
2. **Spaced Repetition:** Instead of cramming all your studying into one session, space out your study sessions over time. Review the material at increasing intervals, focusing more on the areas where you need the most reinforcement. This technique leverages the spacing effect, which enhances long-term retention.
3. **Mnemonic Devices:** Mnemonics are memory aids that help you remember information through associations or creative techniques. Examples include acronyms, rhymes, visual imagery, and memory palace techniques. Mnemonics make information more memorable and easier to recall.
4. **Summarization:** After reading or studying a section of material, summarize it in your own words. This forces you to understand the content deeply and condense it into key points. Summarization helps you organize information and reinforce your memory.
5. **Teaching or Explaining to Others:** Teaching or explaining what you've learned to someone else is an effective way to solidify your understanding and memory of the material. When you can articulate complex concepts to others, it demonstrates your mastery of the subject matter.

List 5 effective study techniques for improving memory retention

This is what I do..

# Display the output

## Lists and Bullet points

- “List key personality traits that contribute to success, and present them in a concise bullet point format.”
- "List 5 effective study techniques for improving memory retention."
- "Highlight the key advantages of 5G technology in a bullet-point list."
- "Summarize the main causes of air pollution in a bullet-point list."
- "Provide a bullet-point list of effective strategies for improving social media engagement."
- “List the key safety features to consider when purchasing a family car.”

# Display the output - Sections and Subsections

Create a structured essay with sections and subsections about Generative AI. Include applications and examples to explain a layman with very limited knowledge.

## Section 1: Introduction

### • 1.1 Overview of Generative AI

- Generative AI is a subset of artificial intelligence that focuses on machines creating new content, such as images, text, or even music, rather than just analyzing existing data. It has gained immense popularity due to its creative capabilities.

## Section 2: How Generative AI Works

### • 2.1 Understanding Neural Networks

- Generative AI relies on neural networks, which are computer systems inspired by the human brain. These networks consist of interconnected nodes that process information.

### • 2.2 Training the Model

- Generative AI models are trained using vast datasets to learn patterns and relationships within the data. For instance, to generate human-like text, a model is exposed to large amounts of text data to grasp language structure.

### • 2.3 Generating New Content

- Once trained, generative AI models can produce novel content by extrapolating from the patterns they've learned. This includes generating realistic images, writing coherent text, or composing music.

## Section 3: Applications of Generative AI

### • 3.1 Text Generation

- Generative AI is used in natural language processing to create human-like text. For example, it can generate news articles, chatbot responses, or even creative writing pieces.

*Example:* Chatbots like GPT-3 can provide conversational responses that sound convincingly human.

### • 3.2 Image Synthesis

- Generative models can generate images that appear to be photographs of real objects or scenes, even if those objects or scenes don't exist in reality.

*Example:* DeepDream, a generative AI developed by Google, creates surreal and artistic images by enhancing patterns in existing pictures.

### • 3.3 Creative Art and Design

- Generative AI has found applications in art and design, assisting artists in creating unique and visually stunning works.

*Example:* AI-generated artwork by artists like Mario Klingemann demonstrates the fusion of human creativity with AI capabilities.

### • 3.4 Content Generation in Gaming

- In the gaming industry, generative AI is used to create vast, immersive worlds and generate in-game content like characters, landscapes, and quests.

*Example:* No Man's Sky utilizes generative algorithms to create an almost infinite number of unique planets and creatures within its game universe.

# Display the output

## Tabular Format

Create 10 MCQ questions on Python pandas.  
Arrange the questions in a table format  
with 6 columns. Question, Option A,  
Option b, Option C , Option D and the  
Answer



### ChatGPT

Here are 10 multiple-choice questions (MCQs) on Python pandas along with four options (A, B, C, D) and the correct answers:

Question	Option A	Option B	Option C
1. What is the primary data structure in pandas for storing and manipulating data?	A. List	B. Array	C. Series
2. Which function is used to read a CSV file into a pandas	A. <code>read_csv()</code>	B. <code>load_data()</code>	C. <code>read_d</code>

# Display the output Tabular Format

What's the study plan for someone who wants to be a data analyst? Note all important fields and their specific points, and organize them in a tabular format.



## ChatGPT

To become a data analyst, one needs to focus on a range of topics. Here's a structured learning path in a tabular format:

Main Topic	Subtopics
Basic Mathematics	- Statistics
	- Probability
Programming Skills	- Python/R
	- SQL
Data Processing	- Data Cleaning
	- Data Transformation
Data Analysis	- Exploratory Data Analysis
	- Data Interpretation
Data Visualization	- Using Tools like Tableau, PowerBI, or Matplotlib
Business Intelligence	- Understanding Business Metrics
	- Reporting Techniques
Communication Skills	- Presenting Findings
	- Storytelling with Data
Tools and Technologies	- Excel
	- Database Management Systems



# Display the output Mathematical equations

Write the back propagation  
theory with mathematical  
equations

## 1. Forward Pass:

- Calculate the weighted sum of inputs ( $z$ ) for each neuron in the network's hidden layers and output layer:

$$z^{(l)} = W^{(l)}a^{(l-1)} + b^{(l)}$$

- Apply an activation function ( $\sigma$ ) to the weighted sum to get the activation ( $a$ ) for each neuron:

$$a^{(l)} = \sigma(z^{(l)})$$

- Repeat this process for each layer, starting from the input layer and moving forward to the output layer.

## 2. Backward Pass (Gradient Calculation):

- Compute the error ( $\delta$ ) for the output layer:

$$\delta^{(L)} = \nabla_a C \odot \sigma'(z^{(L)})$$

Where:

- $\nabla_a C$  represents the gradient of the cost function with respect to the output.
- $\sigma'(z^{(L)})$  is the derivative of the activation function used in the output layer.
- Propagate the error backward through the layers to calculate the error for each hidden layer:

$$\delta^{(l)} = ((W^{(l+1)})^T \delta^{(l+1)}) \odot \sigma'(z^{(l)})$$

- Calculate the gradient of the cost function with respect to the weights ( $\nabla W$ ) and biases ( $\nabla b$ ) for each layer:

$$\nabla W^{(l)} = \delta^{(l)} (a^{(l-1)})^T$$

$$\nabla b^{(l)} = \delta^{(l)}$$



## 3. Weight and Bias Updates:

- Update the model's weights and biases using an optimization algorithm such as gradient descent:

$$W^{(l)} \rightarrow W^{(l)} - \eta \nabla W^{(l)}$$

$$b^{(l)} \rightarrow b^{(l)} - \eta \nabla b^{(l)}$$

Where:


- $\eta$  (eta) is the learning rate, a hyperparameter controlling the step size of the update.

4. **Repeat:** Continue iterating through the forward and backward passes for a specified number of epochs or until the error converges to a desired level.

# ChatGPT for Code

Write an SQL query to find the second-highest price from a 'sales' table. Include the relevant comments in the code.

sql

 Copy code

```
-- SQL query to find the second highest price in the 'sales' table
```

```
SELECT MAX(price) AS SecondHighestPrice  
FROM sales  
WHERE price < (SELECT MAX(price) FROM sales);
```



# ChatGPT for Code

Write Python code  
for deploying an ANN  
model using  
Streamlit. Include  
relevant comments in  
the code

python

Copy code

```
# Import necessary libraries
import streamlit as st
import tensorflow as tf
import numpy as np

# Define the Streamlit app header
st.title("Sentiment Analysis App")

# Define a function to load and use the ANN model
@st.cache(allow_output_mutation=True)
def load_model():
    model = tf.keras.models.load_model("sentiment_model.h5") # Load your model
    return model

model = load_model()

# Create a text input field for user input
user_input = st.text_input("Enter a sentence:")

# Create a button to perform sentiment analysis
if st.button("Analyze Sentiment"):
    if user_input:
```

# 5. Iterations

---

# Iterations

- Get the initial response, have a look at it
- Resubmit to get better results
- Adjust the prompt to get better results
- Add a condition to get better results
- Give some more context to get the better results

# Iterations

- **Refinement and Customization to User Needs**
  - Different users have different needs and levels of understanding.
  - Each iteration helps refine the response, making it more accurate and relevant to the user's query or requirement.
  - Iterative prompting allows you to tailor the information to the specific user, ensuring it's understandable and relevant to them.
- **Error Correction and Clarification:**
  - AI models, no matter how advanced, can sometimes provide incorrect or incomplete information.
  - Through iterative prompting, you can correct these errors, ask for clarifications, and ensure the accuracy of the information provided.
- **Enhancing Creativity and Idea Generation:**
  - In creative tasks, iterative prompting can help in the generation of ideas, designs, or solutions.
  - Each prompt can build on the last, leading to more innovative and creative outcomes.



You

How should I write my resume for a job application?



Initial prompt



ChatGPT

Writing a resume for a job application involves several key steps to ensure it effectively showcases your skills, experiences, and qualifications. Here's a guideline you can follow:

### Contact Information

- **Name:** Clearly at the top.
- **Address:** Optional, but city and state can be useful.
- **Phone Number:** Ensure it's a number where you can be easily reached.
- **Email Address:** Professional sounding (avoid nicknames).
- **LinkedIn Profile:** If applicable, and well-maintained.

### Resume Objective or Summary (Optional)

- **Objective:** More for entry-level or career changers, stating your career goals.
- **Summary:** Briefly highlights your key skills and experiences, suitable for experienced professionals.

### Work Experience

- **List in Reverse Chronological Order:** Most recent job first.
- **Job Title, Company Name, Location, and Dates of Employment:** Clearly stated.
- **Responsibilities and Achievements:** Use bullet points. Start with action verbs. Quantify achievements where possible (e.g., "Increased sales by 20%").

### Education

**In Reverse Chronological Order:** Most recent education first.

**Include:** Institution name, degree, major, graduation date (if recent).

- **GPA:** If it's high and you're a recent graduate.
- **Relevant Coursework or Projects:** If they add value to the application.

### Skills

- **Relevant Skills:** Tailor this section to the job you're applying for. Include both hard skills (like specific software proficiency) and soft skills (like communication or problem-solving).
- **Language Skills:** If relevant.

### Additional Sections (as needed)

- **Certifications or Awards**
- **Volunteer Work**
- **Publications or Presentations**
- **Professional Memberships**

### General Tips

- **Tailor Your Resume:** Customize it for each job application, emphasizing the most relevant experiences and skills.
- **Keywords:** Use keywords from the job description. This is especially important if the employer uses Applicant Tracking Systems (ATS).
- **Keep it Concise:** Ideally one page, two at most for very experienced candidates.
- **Formatting:** Clean, professional, and easy to read. Consistent in font size and style.
- **Proofread:** Check for grammatical errors and typos.
- **PDF Format:** Send your resume in PDF unless otherwise specified.



You

How can I adjust my resume for a senior data analyst position at a data analytics startup?



Refined prompt



ChatGPT

Adjusting your resume for a senior data analyst position at a data analytics startup involves highlighting specific skills, experiences, and attributes that are highly valued in such roles and environments. Here's how you can tailor your resume:

### Focus on Relevant Experience

- **Highlight Data Analytics Roles:** Emphasize your previous roles in data analytics or closely related fields.
- **Detail Specific Projects:** Describe projects where you analyzed large datasets, used statistical methods, or provided actionable insights.
- **Quantify Achievements:** Use numbers and metrics to demonstrate your impact (e.g., "Developed a predictive model that increased accuracy by 30%").

### Showcase Technical Skills

- **Programming Languages:** Mention proficiency in languages like Python, R, SQL, etc.
- **Data Visualization:** Highlight experience with tools like Tableau, Power BI, or other visualization software.
- **Big Data Technologies:** If applicable, include experience with Hadoop, Spark, or similar.
- **Machine Learning:** If you have experience, detail specific algorithms or types of analysis you're familiar with.

### Adapt to Startup Culture

- **Flexibility and Adaptability:** Startups often require wearing multiple hats, so demonstrate your flexibility.
- **Innovative Thinking:** Provide examples of how you've contributed to innovation or problem-solving in past roles.
- **Collaborative Skills:** Mention projects where teamwork was essential, especially in cross-functional teams.

### Emphasize Soft Skills

- **Communication:** Highlight your ability to translate complex data findings into understandable insights for various stakeholders.
- **Leadership:** Mention any experience in leading projects or teams, especially in a data analytics context.
- **Critical Thinking:** Showcase your ability to approach problems logically and offer data-driven solutions.

### Additional Considerations

- **Startup Experience:** If you have previous experience in startups, make sure to highlight this.
- **Continuous Learning:** Mention any recent courses, certifications, or self-study in relevant areas like advanced analytics, data science, etc.
- **Personal Projects:** Include any relevant personal or open-source projects you've worked on, especially if they demonstrate skills applicable to a data analyst role.

### Formatting and Structure

- **Modern, Clean Layout:** Use a contemporary and professional design that aligns with the innovative spirit of a startup.
- **Tailored Summary/Objective:** Craft a resume summary that aligns your experience and goals with the needs of a startup data analyst role.



You

Initial prompt

Create a sales pitch for an online training program

### Introduction:

Greetings! Are you looking to enhance your skills, boost your career, or simply learn something new and exciting? Look no further than [Program Name], your gateway to exceptional online learning.

### Why [Program Name]?

1. **Expert-Led Courses:** Our courses are designed and led by industry experts, ensuring you learn from the best in the field.
2. **Flexible Learning:** Learn at your own pace, anytime, anywhere. Our platform is accessible 24/7, perfectly fitting into your busy lifestyle.
3. **Cutting-Edge Curriculum:** We constantly update our courses to reflect the latest trends and techniques in the industry, keeping you ahead of the curve.
4. **Interactive and Engaging:** Say goodbye to monotonous lectures! Our courses are interactive, with practical exercises and real-world case studies that make learning enjoyable and effective.
5. **Community and Support:** Join a community of like-minded learners. Get your questions answered by experts and network with peers for a collaborative learning experience.

### For Whom is [Program Name] Ideal?

- **Professionals:** Looking to upskill or reskill to advance in your career.
- **Students:** Seeking supplementary learning to complement your studies.
- **Hobbyists and Enthusiasts:** Eager to explore new areas of interest in a structured, comprehensive manner.

### Success Stories:

Hear from our alumni who've transformed their careers and lives with [Program Name].  
[Insert a few testimonials highlighting personal growth, career advancement, or skills gained.]

### Special Offer:

Sign up today and get exclusive access to our introductory webinar with industry leaders. Plus, enjoy an early bird discount on your first course!

### Call to Action:

Don't miss this opportunity to invest in your future. Visit [website link] to explore our courses and take the first step towards achieving your goals with [Program Name].

### Closing:

At [Program Name], we believe in empowering individuals through education. Join us on this journey of learning and growth. We can't wait to see what you'll achieve!





You

Adjust the above sales pitch for a data science program

Refined prompt

### Introduction:

Are you ready to dive into the world of data and emerge as a sought-after data science professional? Welcome to [Data Science Program Name], where we turn your curiosity into expertise.

### Why Choose [Data Science Program Name]?

1. **Specialized Data Science Curriculum:** Our courses are meticulously crafted to cover essential areas in data science, from Python and R programming to machine learning and data visualization.
2. **Learn from Data Science Experts:** Be mentored by professionals who are not just academics but also industry practitioners with real-world experience.
3. **Hands-On Learning Experience:** Our program emphasizes practical skills through hands-on projects, ensuring you're job-ready from day one.
4. **Latest Industry Tools and Techniques:** Stay ahead with training in the most up-to-date tools and technologies used in the field of data science today.
5. **Networking Opportunities:** Connect with a network of alumni and industry professionals for collaboration, job opportunities, and ongoing professional development.

### Who Should Enroll in [Data Science Program Name]?

- **Aspiring Data Scientists:** Embark on a rewarding career path in one of the most in-demand fields.
- **Professionals in Tech and Business:** Augment your current skillset to include data analysis and interpretation.
- **Students and Academics:** Complement your studies with practical skills that can enhance your research and career prospects.

### Success Stories:

Join the ranks of our successful alumni who have gone on to become data analysts, data engineers, and data scientists at leading companies. [Insert testimonials highlighting career transitions, skill enhancements, and real-world impacts.]

### Special Offer:

Register now to get early access to our exclusive data science webinar series. Plus, enjoy a special discount on your first course enrollment!

### Call to Action:

Embark on a journey to a fulfilling career in data science. Visit [website link] to explore our curriculum and enroll in [Data Science Program Name]. The future of data is in your hands!





You

How can I improve my credit score? Could you give me the output in bullet points? with examples

First iteration

lytics  
orming You

- **Pay Bills on Time:**

- Example: Set up automatic payments or calendar reminders for bills like credit cards, loans, and utilities.

- **Keep Credit Card Balances Low:**

- Example: If your credit card limit is \$5,000, try to keep the balance below \$1,500 (30% credit utilization rate).

- **Pay Off Debt and Keep Low Balances:**

- Example: Focus on paying down high-interest debts first, such as credit card debts.

- **Avoid Opening Too Many New Accounts at Once:**

- Example: Space out credit applications. Applying for several credit cards within a short period can hurt your score.

- **Check Credit Reports for Errors:**

- Example: Request a free credit report from major credit bureaus and dispute any inaccuracies, like incorrect late payments.

- **Maintain a Mix of Credit:**

- Example: Responsibly manage a combination of different types of credit, such as a credit card, a car loan, and a mortgage.

- **Limit Hard Inquiries on Your Credit:**

- Example: Only apply for new credit when necessary, as each application can cause a small, temporary drop in your score.

- **Keep Old Credit Accounts Open:**

- Example: Don't close your oldest credit card account, as it helps in lengthening your credit history.

- **Increase Credit Limit (if feasible):**

- Example: Request a credit limit increase on a card you've managed well, which can lower your overall credit utilization ratio.

- **Become an Authorized User:**

- Example: Get added as an authorized user on a family member's credit card account with a good payment history.



You

Second iteration

Analytics  
Forming You

Adjust the above output to improve Cibil score in the Indian Context

- **Pay Loans and Credit Card Bills on Time:**

- Example: Set reminders to pay your EMIs and credit card bills before the due date to avoid late payment entries on your credit report.

- **Maintain Low Credit Utilization Ratio:**

- Example: If your credit card limit is ₹1,00,000, aim to use less than ₹30,000 (30% of the limit) to maintain a low credit utilization ratio.

- **Limit Applications for New Credit:**

- Example: Avoid applying for multiple credit cards or loans within a short timeframe, as each application can lead to a hard inquiry that may reduce your score.

- **Review Credit Reports Regularly:**

- Example: Obtain your CIBIL report annually and check for any discrepancies or errors, such as incorrect loan amounts or wrongly reported missed payments.

- **Balance Secured and Unsecured Loans:**

- Example: Balance your credit portfolio with a mix of secured loans (like home loans) and unsecured loans (like credit cards).

- **Avoid Settling Credit:**

- Example: Instead of settling a debt (paying less than what's due), aim to fully pay off the loan amount. Settlements can negatively impact your CIBIL score.

- **Increase Credit Card Limits:**

- Example: Request your credit card company to increase your limit, which can help lower your credit utilization ratio, provided you do not increase your spending.

- **Keep Old Credit Accounts Active:**

- Example: Do not close old credit cards as they help build a longer credit history, positively impacting your score.

- **Limit Guarantorship:**

- Example: Be cautious about becoming a guarantor for loans, as any default on such loans can impact your credit score.

- **Regularly Monitor Your Co-Signed, Joint Accounts:**

- Example: Regularly check the status of any joint accounts or loans you co-sign, as defaults on these will affect your score as well.

# Structuring the prompt – 5 Elements

**R : Role-player or Expert** : Persona/Roleplaying / Field Expert

**E : Examples** : Exclusions /Exceptions / Inclusions and Exclusions

**D : Domain and Context** : Background / Setup

**D : Display and Format**: Size, Structure and Format of the output

**I : Iterations**: Refinements/ Regenerations / Improvements

# Activity

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# LAB: LLM for code

- Create a PPT on Goal Setting and SMART goals
- Get the code for creating a 3d bar chart
- Google Colab / Chat-Gpt
  - Importing data
  - Finding mean of a column
  - Create a scatter plot for two columns

# Lets Try Few more examples

Let's explore a few examples from your everyday tasks.

# Some Useful Tricks

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# My personal Trick for YouTube videos

- Open a YouTube link - <https://www.youtube.com/watch?v=8KkKuTCFvzI>

**BARD** - Summarize the content discussed in this video. Arrange the output into sections and subsections. Make sure that minimum 4 lines are there in each of the subsection.

## Chat GPT

- Click on Description>>Show Transcript >> Toggle Time Steps >> Copy the transcript
- Summarize the below transcript. Arrange the output into sections and subsections. Make sure that minimum 4 lines are there in each of the subsection.



# Job Search Guidance and Prompts

[https://github.com/venkatareddykonasani/GenAI/blob/main/job\\_prompts.md](https://github.com/venkatareddykonasani/GenAI/blob/main/job_prompts.md)

- Leveraging LinkedIn Networking for Job Prospects
- Crafting a Cover Letter for [Title] Position
- Resume Building Exercise: [Title] Position
- Email Submission of Resume and Cover Letter
- Interview Preparation: Generating [number] Questions
- Simulate a Mock Technical Interview
- Preparing a Personal Introduction for [Title] Interview
- Analyzing Compatibility Between My Skills and Job Requirements

# Sales and Marketing prompts

[https://github.com/venkatareddykonasani/GenAI/blob/main/Sales\\_and\\_Marketing\\_Prompts.md](https://github.com/venkatareddykonasani/GenAI/blob/main/Sales_and_Marketing_Prompts.md)

Within this GitHub repository, I have curated a selection of prompts tailored for

- Marketing strategies
- Sales follow-up communications
- Strategies for sales negotiations
- Crafting effective cold emails
- Techniques for closing sales

# GPT - Store

## GPTs

Discover and create custom versions of ChatGPT that combine instructions, extra knowledge, and any combination of skills.

Q Search public GPTs

Top Picks DALL-E Writing Productivity Research & Analysis Programming Education Lifestyle

### Featured

Curated top picks from this week



#### Tutor Me

Your personal AI tutor by Khan Academy! I'm Khanmigo Lite - here to help you with math, science, an...

By khanacademy.org



#### Murder Mystery Mayhem

Solve procedurally generated murder cases as a 1925's detective in this murder mystery game.

By aimedesign.net



#### KAYAK - Flights, Hotels & Cars

Your travel planning assistant for flights, hotels, & cars

By kayak.com



#### Diagrams: Show Me

Create Diagrams, Architecture Visualisations, Flow-Charts, Mind Map, Schemes and more. Great fo...

By helpful.dev

### Trending

Most popular GPTs by our community

1



#### Canva

Effortlessly design anything: presentations, logos, social media posts and more.

By canva.com

2



#### image generator

A GPT specialized in generating and refining images with a mix of professional and friendly tone.image generator

By NAIF J ALOTAIBI

3



#### Logo Creator

Use me to generate professional logo designs and app icons!

By Chase Lean

4



#### Diagrams: Show Me

Create Diagrams, Architecture Visualisations, Flow-Charts, Mind Map, Schemes and more. Great for coding,...

By helpful.dev

5



#### Consensus

Your AI Research Assistant. Search 200M academic papers from Consensus, get science-based answers, and draft content...

By consensus.app

6



#### Cartoonize Yourself

Turns photos into Pixar-style illustrations. Upload your photo to try

By karenxcheng.com

7



#### Video GPT by VEED

AI Video Maker. Generate videos for social media - YouTube, Instagram, TikTok and more! Free text to video & speech tool wit...

By veed.io

8



#### Write For Me

Write tailored, engaging content with a focus on quality, relevance and precise word count.

By puzzle.today

9



#### KAYAK - Flights, Hotels & Cars

Your travel planning assistant for flights, hotels, & cars

By kayak.com

10



#### Humanizer Pro

#1 Humanizer in the market. Writes text like a human, avoiding AI detection. This tool humanizes your content to bypass the mo...

By charlygpts.com

# Finally - Use ChatGPT - Be 10X



# Prompt Engineering Certification Courses

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# Prompt Engineering Certification Courses

- <https://cognitiveclass.ai/courses/prompt-engineering-for-everyone>
- <https://www.coursera.org/learn/generative-ai-prompt-engineering-for-everyone>
- <https://www.coursera.org/learn/prompt-engineering>
- <https://careercatalyst.asu.edu/programs/ai-prompt-engineering/>

# Some Useful Resources

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# Useful Links

- <https://aman.ai/primers/ai/prompt-engineering/>
- [https://python.langchain.com/docs/modules/model\\_io/prompts/prompt\\_templates/few\\_shot\\_examples](https://python.langchain.com/docs/modules/model_io/prompts/prompt_templates/few_shot_examples)
- <https://www.promptingguide.ai/>
- [https://learnprompting.org/docs/basics/few\\_shot](https://learnprompting.org/docs/basics/few_shot)
- [https://www.w3schools.com/gen\\_ai/chatgpt-4/chatgpt-4\\_few\\_shot.php](https://www.w3schools.com/gen_ai/chatgpt-4/chatgpt-4_few_shot.php)
- <https://www.analyticsvidhya.com/blog/2023/09/power-of-llms-zero-shot-and-few-shot-prompting/>



# Thank you

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