

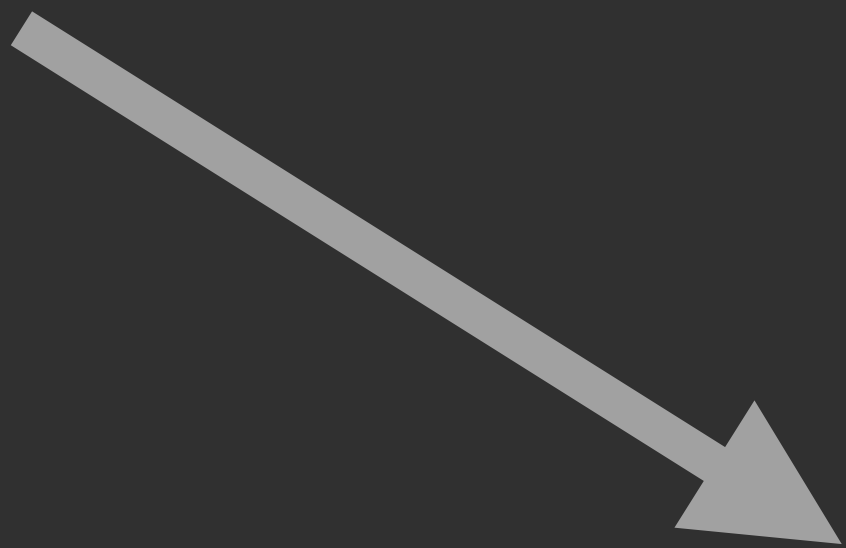
# Generative AI:

framing your perspective

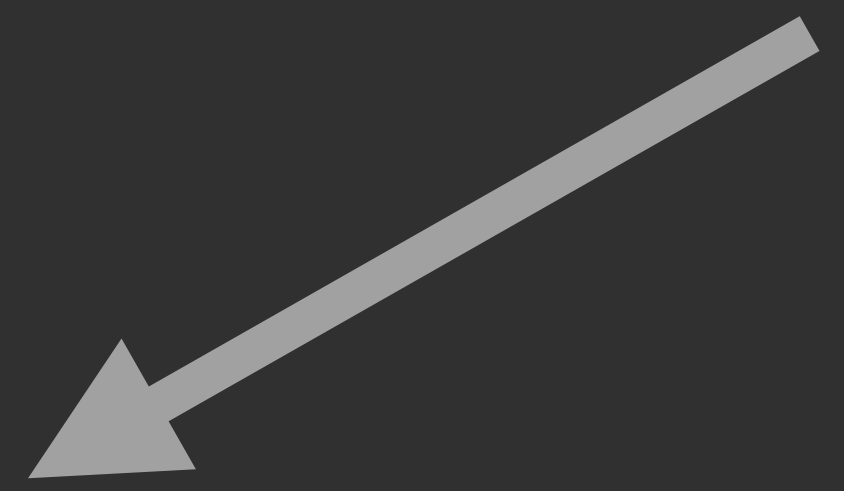
**Talking with People**



Ken



Random  
Person













**What** can I **do** with it?

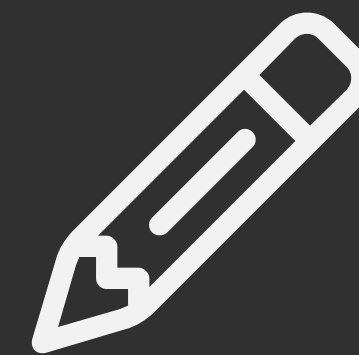
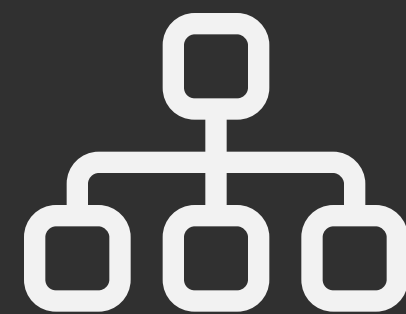
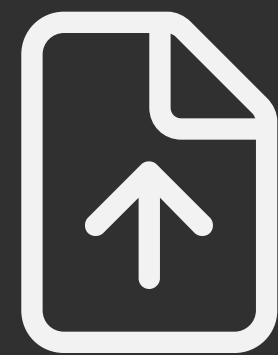


**Where** is it getting its **information** from?

**How** can you **trust** what it tells you?

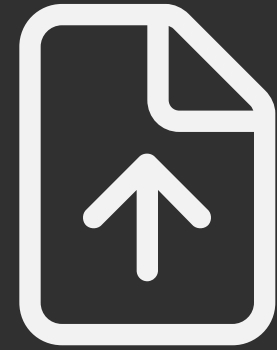
**What can I  
do with it?**

People working with text-based  
**Generative AI** are finding they can  
leverage it to do **five key tasks**.

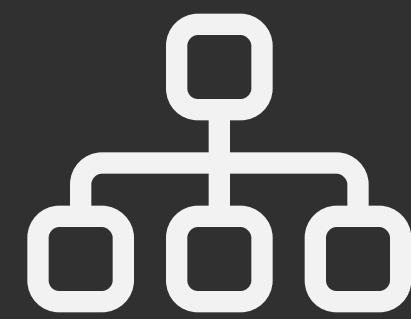




Summarize



Extract



Classify



Write



Answer

**“How much of this  
was written using  
Generative AI?”**

## Prompt Example 1

How would you explain, in simple terms and clear language, the following quote "How you trust anything is how you trust everything"

## Prompt Example 2

Describe how book authors structure their time to do the hard work of organizing themselves to write a book over time.

Include supportive ways to stay focused and energized on the challenge because it can feel like isolating work that is overwhelming to complete.

Offer coaching advice with respect to writing a book inspired by the book "Atomic Habits" written by James Clear.

Offer coaching advice with respect to writing a book inspired by the book "Grit" written by Angela Duckworth.

Offer coaching advice with respect to writing a book inspired by the book "Deep Work" written by Cal Newport.

# Prompt Example 3a

## AST SpaceMobile Provides Second Quarter 2023 Business Update

*Confirmed historic space-based 4G LTE cellular broadband capabilities alongside AT&T, Vodafone and Nokia; and completed comprehensive interim financing package*

August 14, 2023 04:15 PM Eastern Daylight Time

MIDLAND, Texas--(BUSINESS WIRE)--AST SpaceMobile, Inc. ("AST SpaceMobile") (NASDAQ: ASTS), the company building the first and only space-based cellular broadband network accessible directly by standard mobile phones, is providing its business update for the second quarter ended June 30, 2023.

"AST SpaceMobile continues to make history. This quarter we achieved space-based 4G LTE cellular broadband capabilities to everyday smartphones, reaching speeds above 10 Mbps during BlueWalker 3 testing alongside AT&T, Vodafone and Nokia"

 Post this

"AST SpaceMobile continues to make history. This quarter we achieved space-based 4G LTE cellular broadband capabilities to everyday smartphones, reaching speeds above 10 Mbps during BlueWalker 3 testing alongside AT&T, Vodafone and Nokia," said Abel Avellan, Chairman and Chief Executive Officer of AST SpaceMobile. "We are now laser-focused on the manufacturing of our BlueBird satellites. The first five satellites are fully-funded with a planned launch in Q1 2024 as we target to offer initial commercial service in 2024."

"On the back of the progress of our company technically, commercially and industrially, we have received multiple indications of interest for strategic investments with both equity-linked and non-dilutive commercial payments," said Scott Wisniewski, Chief Strategy Officer of AST

SpaceMobile. "Proceeds from this prospective capital raise are intended to fund the manufacturing and launch of additional BlueBird satellites launches beyond our first five commercial satellites."

"We are happy to announce the completion of a comprehensive financing package providing us up to \$179 million of cash and liquidity," said Sean Wallace, Chief Financial Officer of AST SpaceMobile. "This financing package is comprised of an up to \$100 million Senior Secured Credit Facility and a \$15 million Equipment-Backed Loan completed today, in addition to a \$57 million previously announced common stock offering in June 2023 and \$7 million raised under the ATM program during the second quarter of 2023."

## AST SpaceMobile to Provide Quarterly Business Update on November 14, 2023 and Provides Preliminary Financial Results for Third Quarter 2023

October 25, 2023 07:00 AM Eastern Daylight Time

MIDLAND, Texas--(BUSINESS WIRE)--AST SpaceMobile, Inc. ("AST SpaceMobile") (NASDAQ: ASTS), the company building the first and only space-based cellular broadband network accessible directly by standard mobile phones, today announced it will hold a quarterly business update conference call on Tuesday, November 14th at 5:00 p.m. (Eastern Time). The company is also providing its preliminary estimated financial results for the third quarter ended September 30, 2023.

AST SpaceMobile will be accepting questions from retail and institutional shareholders and management will answer select questions relating to AST SpaceMobile's business and financial results on the conference call. Investors are encouraged to submit questions to [investors@ast-science.com](mailto:investors@ast-science.com) and will also be added to our Investor Relations mailing list.

The call will be accessible via a live webcast on the Events page of AST SpaceMobile's Investor Relations website at <https://ast-science.com/investors/>. An archive of the webcast will be available shortly after the call.

### Third Quarter 2023 Preliminary Estimated Financial Results

- We ended the third quarter with cash and cash equivalents and restricted cash of approximately \$135.7 million
- We expect our total preliminary Adjusted operating expenses to be between \$36.2 and \$38.2 million for the third quarter of 2023<sup>(1)</sup>
- As of September 30, 2023, we have incurred approximately \$224.2 million of capitalized property and equipment costs. This includes costs incurred for purchase of satellite direct materials and launch payments for commercial bluebird satellites, costs incurred for assembly, test, launch and deployment of BlueWalker 3 ("BW3") satellite, and costs incurred for development of assembly, integration, and test facilities including purchases of assembly equipment and antennas

(1) Adjusted operating expense is a non-GAAP measure. See reconciliation of Adjusted operating expense to Total operating expense in the table accompanying this press release



## Prompt Example 3b

“Summarize the differences in the 2Q 2023 business update in TEXT1 compared to the 3Q 2023 business updates in TEXT2. Compare and contrast them point by point. Answer with respect to a retail investor wanting to better understand the company progress.”

# Prompt Example 3c

## Comparative Analysis

- **Technological Development:** Both quarters show significant achievements in technology, with an upgrade from 4G LTE capabilities in Q2 to 5G capabilities in Q3.
- **Financial Health:** Q3 shows a decrease in cash and cash equivalents compared to Q2, indicating increased expenditure or investment.
- **Operating Expenses:** There's a slight decrease in operating expenses in Q3, with a future forecast of further reductions.
- **BlueBird Satellite Program:** Continued progress with a consistent timeline for the first satellite launch.
- **Strategic Direction:** Q3 emphasizes potential revenue generation and strategic partnerships for future growth, indicating a shift towards commercialization.

For a retail investor, this comparison suggests that AST SpaceMobile is progressing technologically and moving towards commercial viability, albeit with significant capital expenditure and strategic investments. The focus on reducing operating expenses and generating revenue in 2024 are key indicators of the company's future trajectory.



# UX of AI

Micro-interactions

Design patterns

Emerging best practices

# Text + RLHF + Do Over



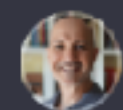
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# Dynamic Error Analysis + Correction



**You**

Generate 73 words of "lorem ipsum" placeholder text.

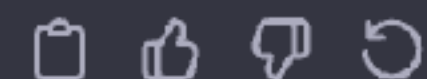


**ChatGPT**

It seems I made an error in calculating the word count. The text I generated is 42 words long, not 73. Let me correct that and provide you with exactly 73 words of "Lorem Ipsum" placeholder text. [↵]

Here are exactly 73 words of "Lorem Ipsum" placeholder text:

"Lorem ipsum dolor sit amet, consectetur adipiscing elit. Sed do eiusmod tempor incididunt ut labore et dolore magna aliqua. Ut enim ad minim veniam, quis nostrud exercitation ullamco laboris nisi ut aliquip ex ea commodo consequat. Duis aute irure dolor in reprehenderit. Sed ut perspiciatis unde omnis iste natus error sit voluptatem accusantium doloremque laudantium, totam rem aperiam, eaque ipsa quae ab illo inventore veritatis et quasi architecto beatae vitae dicta sunt explicabo." [↵]



# Prompt Rewriting



You

Create an image of a diverse group of brave intelligent explorers setting out to discover this land.



ChatGPT



Here is the image of a diverse group of brave and intelligent explorers, ready to embark on their journey to discover new lands. They are equipped with exploration gear and exhibit a sense of determination and curiosity, with an adventurous landscape in the background.



Prompt

Illustrate a diverse group of brave and intelligent explorers, about to embark on a journey to discover a new land. The group should consist of four individuals: a Caucasian woman, a Hispanic man, a Black woman, and a Middle-Eastern man. They should be dressed in explorer attire, equipped with tools like binoculars, maps, and compasses. Each individual should exhibit a sense of determination and curiosity. The background can hint at an adventurous landscape, possibly the edge of a forest or the start of a mountain trail, to suggest the beginning of their exploration.

Copy

# Approach GenAI

Be curious

Practice daily

Ask well-formed questions

**Where is it getting  
its information?**





# What data?

- **Common Crawl** (nonprofit that crawls the web and freely provides its archives)
- **C4** (Colossal Clean Crawled Corpus)
- **The Pile** (825 GB)
- **BookCorpus** (unpublished authors)
- **arXiv** (scientific papers)
- **Wikipedia**
- **GitHub** (public repos)
- **LibGen**
- **Sci-Hub**

# GenAI is multimodal



Voice/Sound/Music and Art/Visual design

# LLMs to choose from

Claude (Anthropic)

Command (Cohere)

GPT (OpenAI)

Grok (X.ai)

Jurassic (Ai21)

Llama (Meta)

PaLM (Google)

SDXL (Stability AI)

Titan (Amazon)

Falcon

Llama

Mistral

OpenHermes

RedPajama

Vicuna

Zephyr

# Retrieval Augmented Generation (RAG)

# RAG

Google Workspace  
"Duet"

GMail, Drive, Docs,  
Sheets, Slides, YouTube

Microsoft 365  
"Copilot"

Outlook, OneDrive,  
Excel, Word, Powerpoint

Custom (Langchain)

PDF, SQL, S3, API,  
WWW

**"Data is the new oil"**

2006, Clive Humby

**"Software is  
eating the world"**

2011, Marc Andreessen

# Leverage your data!

Gain a competitive advantage with the valuable things you uniquely know about:

Your **company**

Your **industry**

Your **customers**



# Learn from dev docs

Overview Documentation API reference Examples

Search [K]

**GET STARTED**

- Introduction
- Quickstart
- Models
- Tutorials
- Changelog

**CAPABILITIES**

- Text generation
- Function calling
- Embeddings
- Fine-tuning
- Image generation
- Vision
- Text-to-speech
- Speech-to-text
- Moderation

**ASSISTANTS**

- Overview
- How Assistants work
- Tools

**GUIDES**

- Prompt engineering
- Production best practices

## Introduction

Looking for ChatGPT? Head to [chat.openai.com](https://chat.openai.com).

The OpenAI API can be applied to virtually any task. We offer a range of **models** with different capabilities and price points, as well as the ability to **fine-tune** custom models.

### Resources

- Experiment in the [playground](#)
- Read the [API reference](#)
- Visit the [help center](#)
- View the current [API status](#)
- Check out the [OpenAI Developer Forum](#)
- Learn about our [usage policies](#)

At OpenAI, protecting user data is fundamental to our mission. We do not train our models on inputs and outputs through our API. Learn more on our [API data privacy page](#).

### Key concepts

#### Text generation models

OpenAI's text generation models (often referred to as generative pre-trained transformers or "GPT" models for short), like GPT-4 and GPT-3.5, have been trained to understand natural and formal language. Models like GPT-4 allows text outputs in response to their inputs. The inputs to these models are also referred to as "prompts". Designing a prompt is essentially how you "program" a model like GPT-4, usually by providing instructions or some examples of how to successfully complete a task. Models like GPT-4 can be used across a great variety of tasks including content or code generation, summarization, conversation, creative writing, and more. Read more in our introductory [text generation guide](#) and in our [prompt engineering](#)

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Vertex AI Overview Guides Generative AI Reference Samples Support Resources

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Discover

- About Generative AI on Vertex AI
- Generative AI Studio
- Model Garden
- Model information
- Responsible AI
- Data governance
- Locations
- Certifications
- Security controls

Get started

- Try a beginner tutorial

Use generative AI models

- Prompt design
  - Introduction to prompt design
  - General prompt design strategies
  - Prompt samples
- Use language models
- Use image models
- Use video models
- Use speech models
- Connect models to APIs by using extensions

Model Garden

- Explore AI models in Model Garden
- Model tuning recommendations

Notebooks and tutorials

- Learn about LLMs, PaLM models, and Vertex AI
- Jump Start Solution: Generative AI Document Summarization

Was this helpful?

## Introduction to prompt design

Send feedback

Prompt design is the process of creating prompts that elicit the desired response from language models. Writing well structured prompts is an essential part of ensuring accurate, high quality responses from a language model. This page introduces some basic concepts, strategies, and best practices to get you started in designing prompts.

### What is a prompt

A prompt is a natural language request submitted to a language model to receive a response back. Prompts can contain questions, instructions, contextual information, examples, and partial input for the model to complete or continue. After the model receives a prompt, depending on the type of model being used, it can generate text, embeddings, code, images, videos, music, and more.

### Prompt content types

Prompts can include one or more of the following types of content:

- Input (required)
- Context (optional)
- Examples (optional)

#### Input

An input is the text in the prompt that you want the model to provide a response for, and it's a required content type. Inputs can be a question that the model answers (question input), a task the model performs (task input), an entity the model operates on (entity input), or partial input that the model completes or continues (completion input).

#### Question input

A question input is a question that you ask the model that the model provides an answer to.

**How can you trust  
what it tells you?**

How you trust  
**anything** is how you  
trust **everything**.

# Provider Reputation

Established and reputable providers are more likely to deliver trustworthy AI.

# Feedback Mechanism

Consider feedback from other users within your organization regarding the reliability and accuracy.

## Testing and Pilots

Assess the digital assistant's reliability and accuracy in specific business scenarios before widespread adoption.

# Gut Feeling

If something feels off or doesn't sit right,  
it's worth investigating further.

# Avoid blind trust



Human involvement



😊 GenAI is the perfect opportunity.

😬 GenAI is full of fear and risk.

You get to decide which applies to you.

Let's do something **awesome** together!

**KenTabor**



**Code and Chats**