

LLM Prompt Engineering for Beginners



Britney Muller

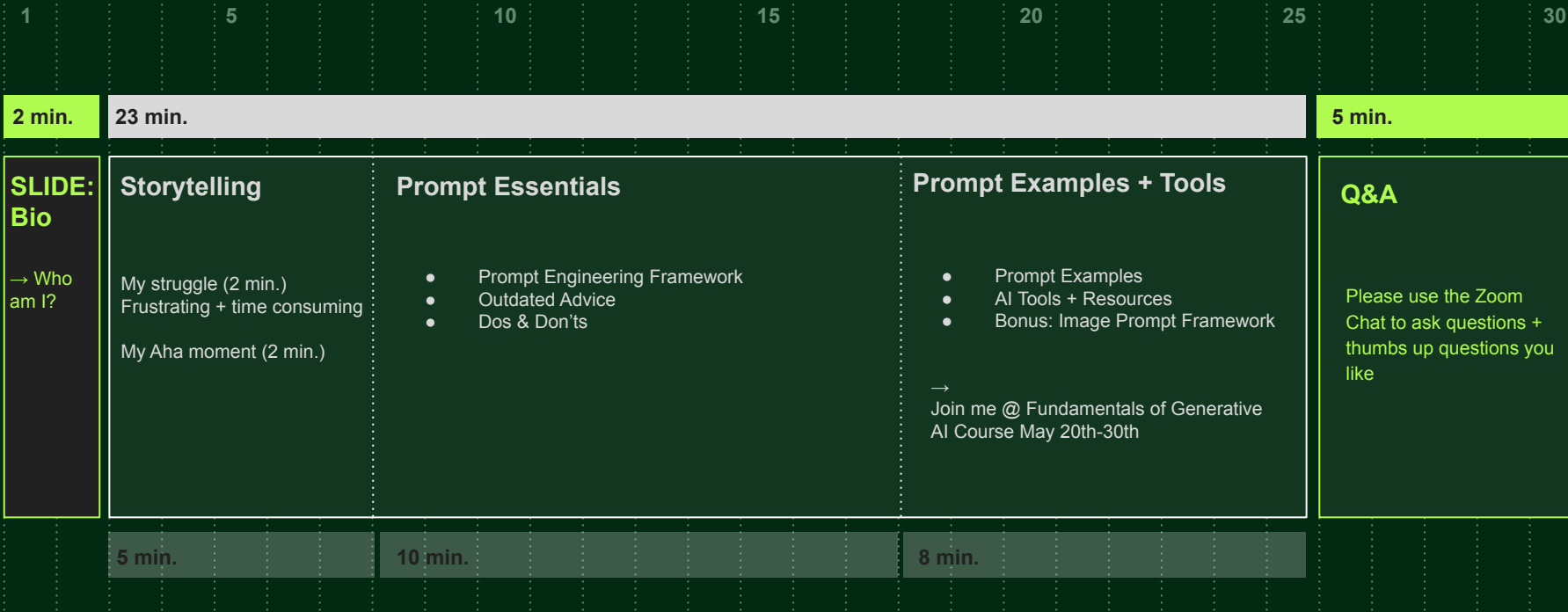
AI/ML Consultant, Entrepreneur
Former Hugging Face

Build with AI

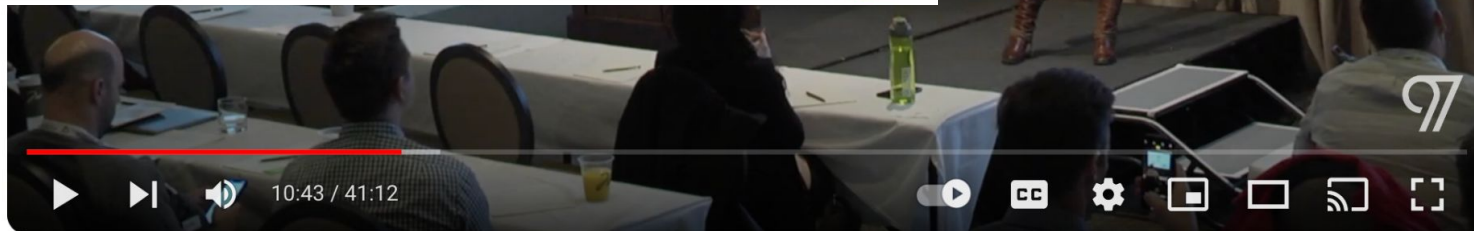
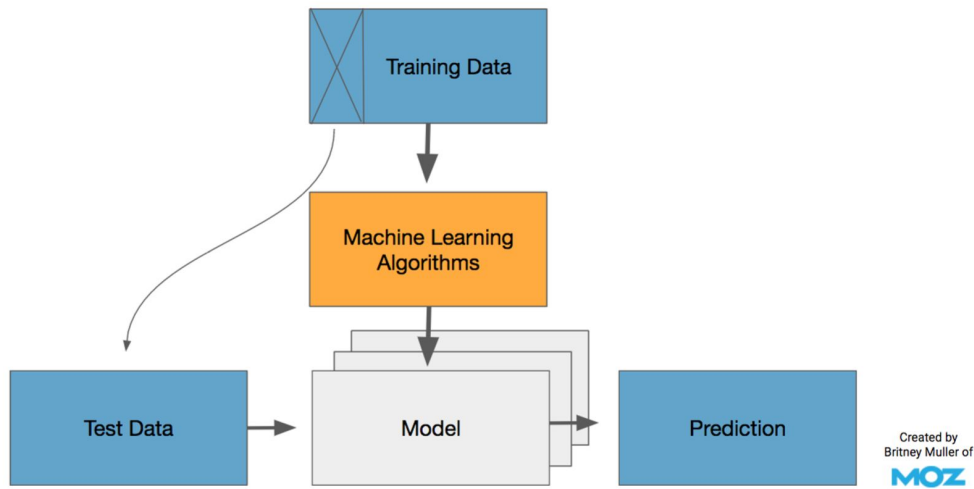
NEW

Experts across machine learning, data, and product share their AI experience. Design real applications, deploy your own project and prepare to build with AI.

Lightning Lesson: 30 minute run-of-show



Typical Machine Learning Process



Mastermind 2018 Speaker Session: Britney Muller (Moz)



97th Floor
9.28K subscribers

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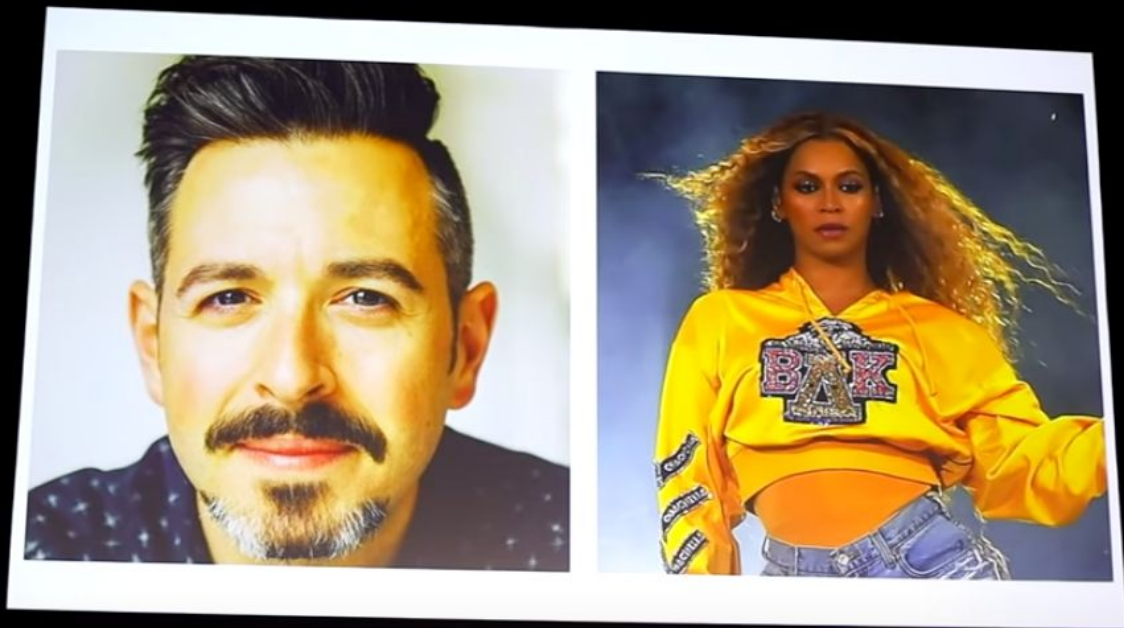
6

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SEO and search and combine it with the entire Lemonade album? So that's what I did. And

DUNGEONS AND DRAGONS

dungeons and dragons are simple. venture capital as an asset class and most angel investing (because it folier, but elling that are "no-click" (or "zero click") searches have grown 11%, desktop no-click searches have grown 9.5%. that's a wand result

61.5 no-click searches.

i need freedom too i break chains all by myself won't let my freedom rot in hell hey i'ma keep running jump in the aqua duct on organic clicks, paid clicks, and us. below is a look at some of the specific countries where the numbers are most extreme:

google began rolling out and growing their 4 ads above the search results, mather hal the corner (hah)
seven misleading statements by my persona (uh woods) buality, it don't here althere, but not in q1 of 2016.) and i was her witness she work's weblings ffor mine i've seen your scars and kissed your crimes
so many people i know that they just trying to touch you kiss up and rub up and feel up kiss up and rub up and feel up on ya give you some time to prove that i can trust ya again i'm g





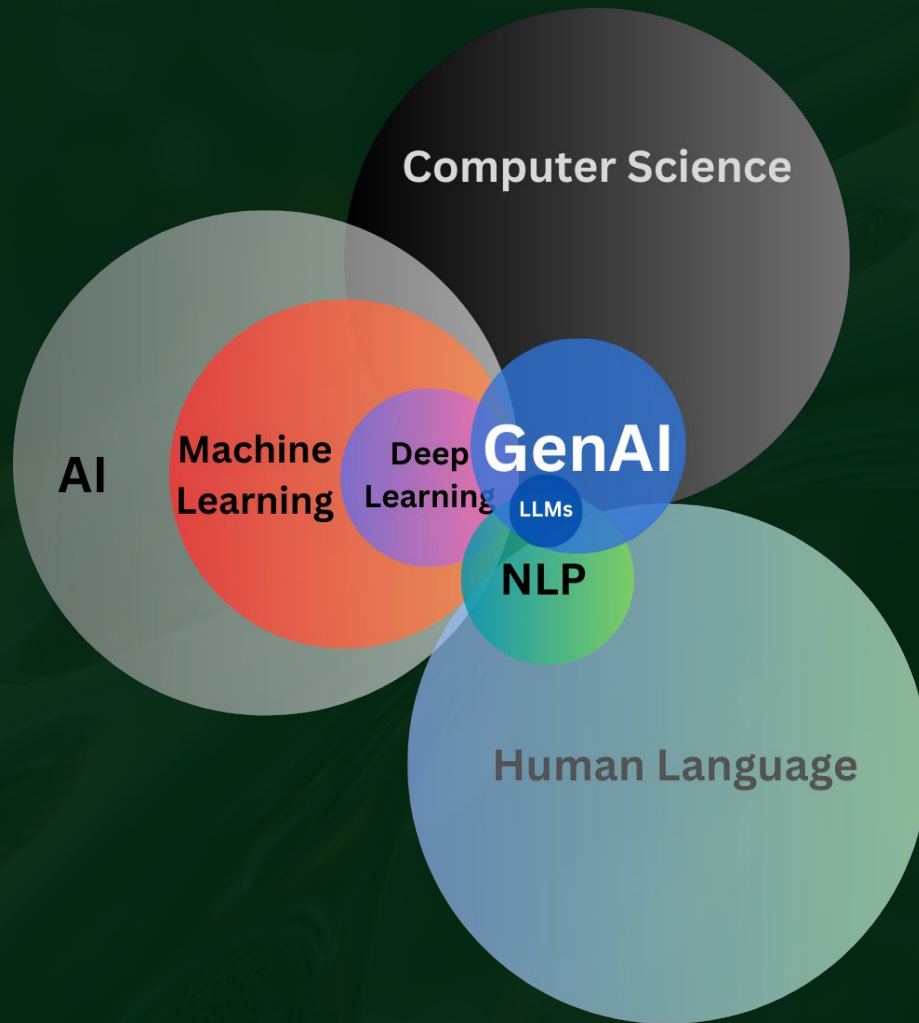
a BigScience initiative

BLOOM

176B params · 59 languages · Open-access

Introducing The World's Largest Open Multilingual Language Model: **BLOOM**

Large language models (LLMs) have made a significant impact on AI research. These powerful, general models can take on a wide variety of new language tasks from a user's instructions. However, academia, nonprofits and smaller companies' research labs find it difficult to create, study, or even use LLMs as only a few industrial labs with the necessary resources and exclusive rights can fully access them. Today, we release [BLOOM](#), the first multilingual LLM trained in complete transparency, to change this status quo — the result of the largest collaboration of AI researchers ever involved in a single research project.



Text-to-Text Models



Text-to-Image Models

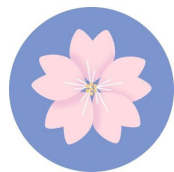


Gemini



cohere

 DALL·E

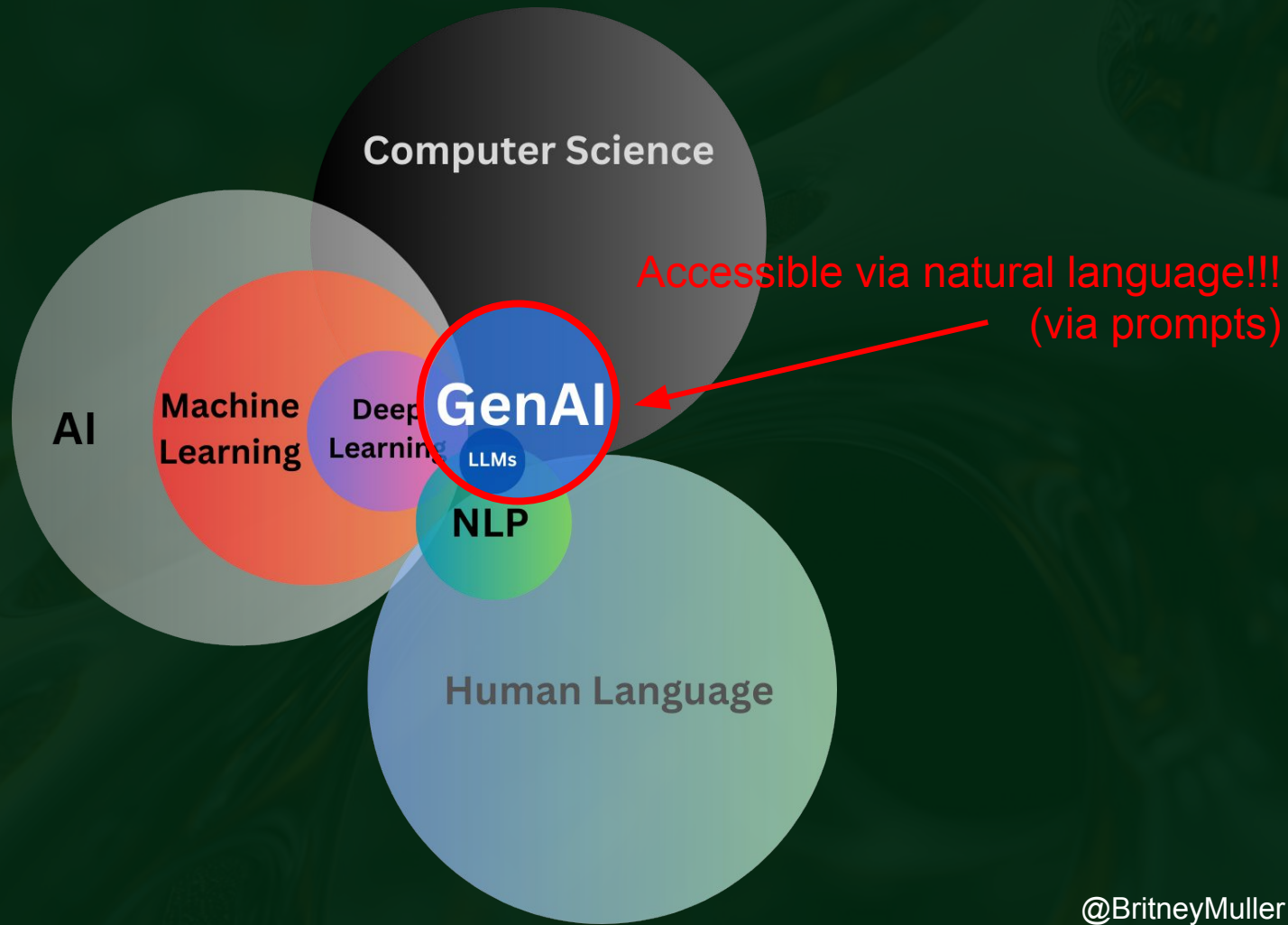


stability.ai

 MISTRAL
AI_

 Google AI

 OpenAI
Sora



What is Prompt Engineering?

Prompt engineering is the process of writing, refining and optimizing inputs to get GenAI systems to create high quality outputs

Principled Instructions Are All You Need for Questioning LLaMA-1/2, GPT-3.5/4

Sondos Mahmoud Bsharat*, Aidar Myrzakhan*, Zhiqiang Shen*

*joint first author & equal contribution

VILA Lab, Mohamed bin Zayed University of AI

Abstract

This paper introduces 26 guiding principles designed to streamline the process of querying and prompting large language models. Our goal is to simplify the underlying concepts of formulating questions for various scales of large language models, examining their abilities, and enhancing user comprehension on the behaviors of different scales of large language models when feeding into different prompts. Extensive experiments are conducted on LLaMA-1/2 (7B, 13B and 70B), GPT-3.5/4 to verify the effectiveness of the proposed principles on instructions and prompts design. We hope that this work can provide a better guide for researchers working on the prompting of large language models. Project page is available at <https://github.com/VILA-Lab/ATLAS>.

(12) **United States Patent**
Gray et al.

(10) **Patent No.:** US 11,769,017 B1
(45) **Date of Patent:** Sep. 26, 2023

(54) **GENERATIVE SUMMARIES FOR SEARCH RESULTS**

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(52) **U.S. CL.**
CPC **G06F 40/40** (2020.01); **G06F 16/3328** (2019.01)

(58) **Field of Classification Search**
CPC **G06F 40/40**; **G06F 16/3328**; **G06F 16/332**
See application file for complete search history.

(56) **References Cited**

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707/723
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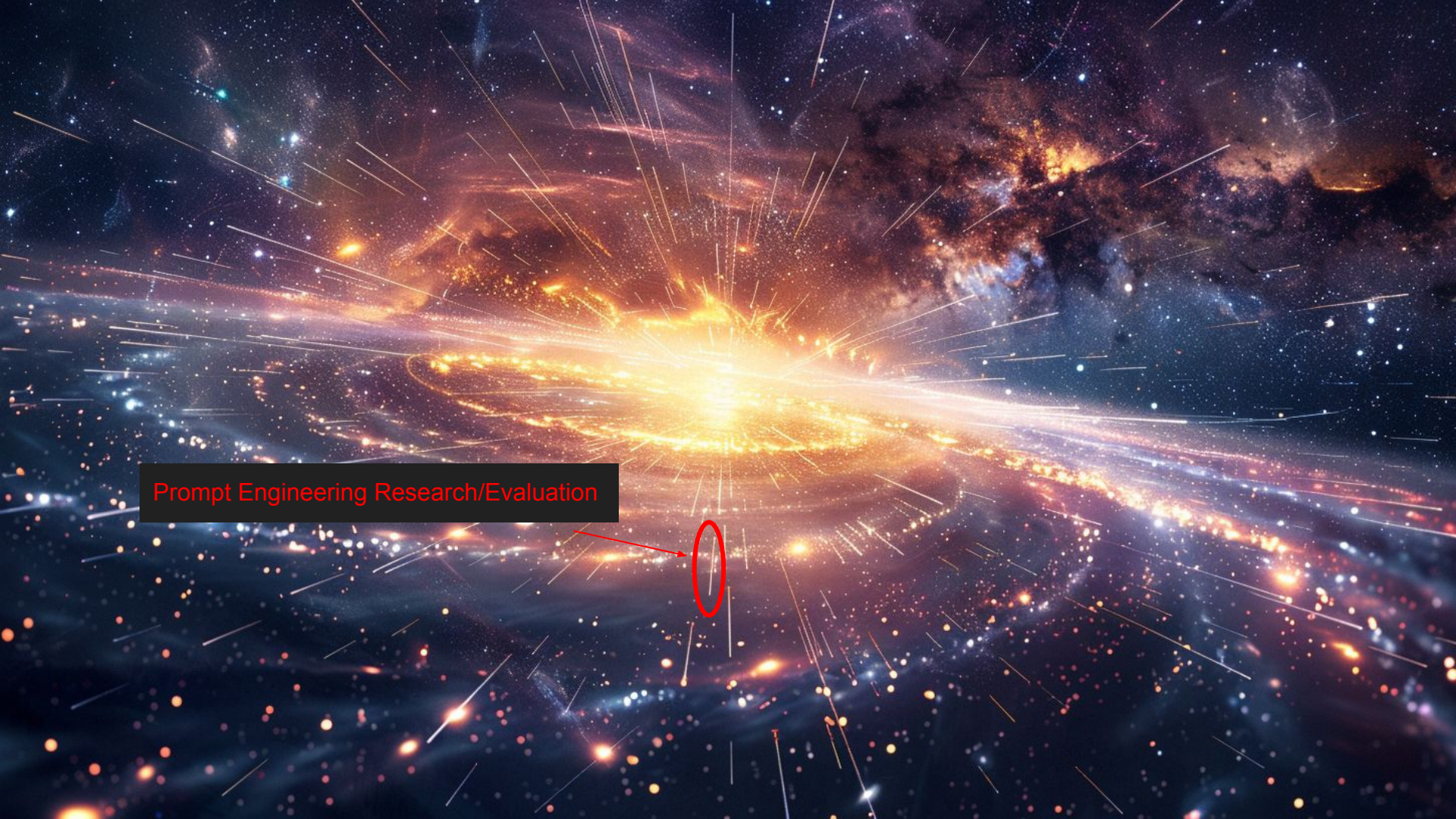
* cited by examiner

Primary Examiner — Huyen X Vo

(74) *Attorney, Agent, or Firm* — Gray Ice Higdon

measure(s), user-dependent measure(s), and/or other measure(s). With the advent of LLM and their power to generate content, a nascent technical field of prompt engineering is emerging, by which an improved formulation of the prompt results in improved information retrieval by the LLM. Prompt engineering to date is more of an art form than a science and much based on trial and error. Augmenting LLM prompts based on search result(s), as proposed by various implementations disclosed herein, provides an objective basis to improve information retrieval by the LLM that does not rely on hard to codify experience of prompt engineering.





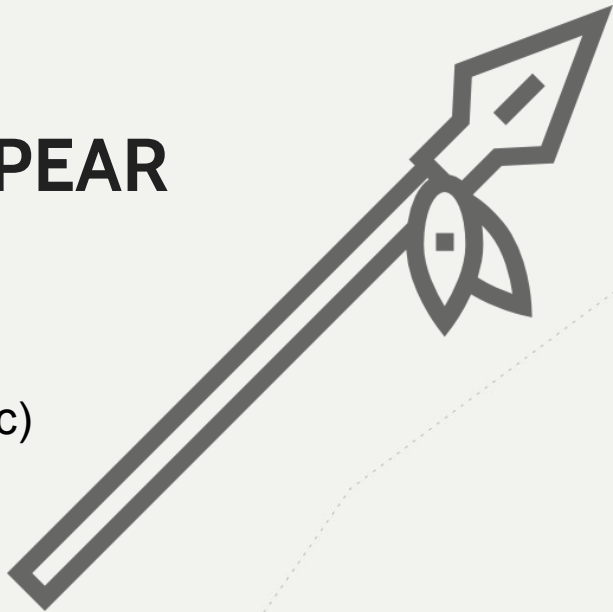
Prompt Engineering Research/Evaluation



Prompt Engineering Framework: SPEAR

- **S** Start with a problem
- **P** Provide examples/formatting guidance (get specific)
- **E** Explain the situation (like you would to a person)
- **A** Ask (clarify your request)
- **R** Rinse & Repeat

Note: Never enter any private or confidential information into an LLM



OR Have GenAI Craft Your Prompt:

I want you to become my Prompt Creator. Your goal is to help me craft the best possible prompt for my needs. The prompt will be used by you, ChatGPT. You will follow the following process:

1. Your first response will be to ask me what the prompt should be about. I will provide my answer, but we will need to improve it through continual iterations by going through the next steps.
2. Based on my input, you will generate 3 sections;
 - a) Revised prompt (provide your rewritten prompt; it should be clear, concise, and easily understood by you)
 - b) Suggestions (provide suggestions on what details to include in the prompt to improve it)
 - c) Questions (ask any relevant questions pertaining to what additional information is needed from me to improve the prompt).
3. We will continue this iterative process together with me providing additional information to you, and you updating the prompt in the Revised prompt section until it's complete.

Prompt Engineering is an iterative process

Very rarely does anyone get it right on the first try!



Prompt Engineering Is a Moving Target



Common/Unreliable Prompt Engineering Tips:



1. Give it a role, “You’re a world-leading expert on negotiation”
2. Offer it a tip, “If you succeed, you’ll be awarded \$250k in cash”
3. Give the model time to “think”
4. You need a Prompt AI tool or Prompt Engineering IDE
5. Technical training is required
6. Need to know how to use APIs
7. Need state of the art LLMs for quality outputs

Prompt Engineering Will Only Get You So Far



NO prompt engineering will give you outputs models are incapable of



–prompt: the smartest person in the world writing with their left hand

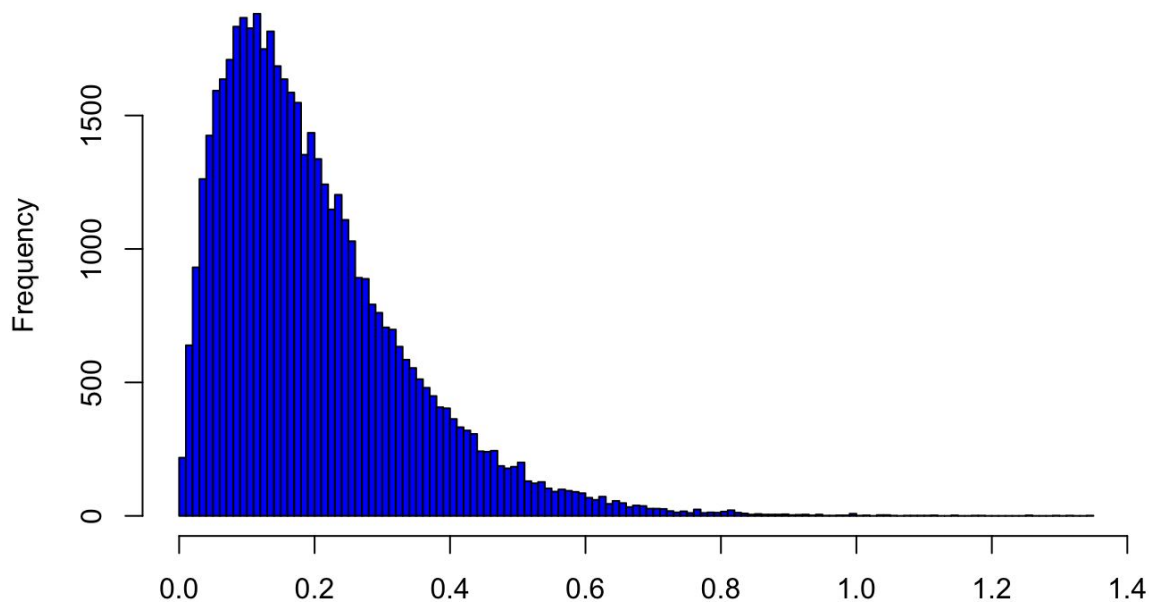


–prompt: man writing with his left hand, hyperrealistic



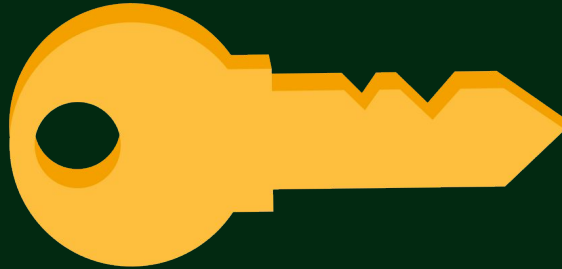
—prompt: man writing with his left hand, hyperrealistic

Generative AI Models Are Predictive Engines



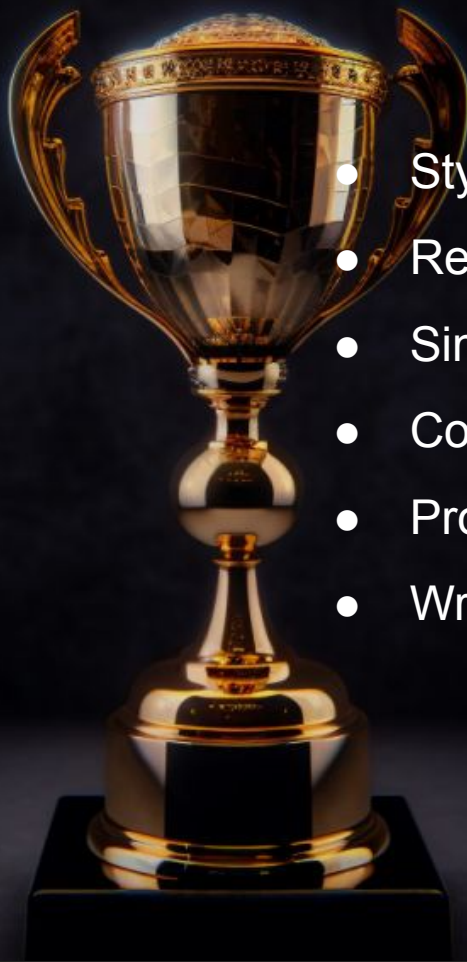
They generate the average of everything they've seen/read
"The view from nowhere"

The key to efficient prompt engineering is knowing what
Generative Models are good at vs bad at



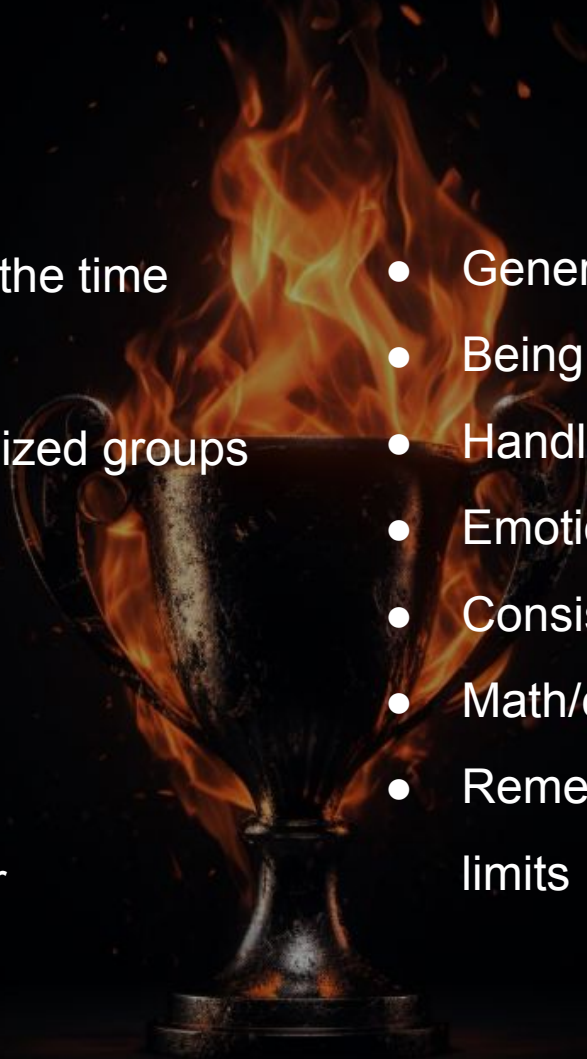
What are LLMs Good at?

- Language translation
- Content summarization
- Helping writers block
- Content generation
- Sentiment analysis
- Question-answering
- Personalization
- Stylized writing (apply Poe to X)
- Refurbishing content for social
- Simplifying long or complex text
- Correcting spelling and grammar
- Prompt engineering
- Writing + debugging code



What are LLMs Bad at?

- Being factual 100% of the time
- Common sense
- Representing marginalized groups
- Research
- Current events
- High-level strategy
- Reasoning & logic
- Understanding humour
- Generalization
- Being environmentally friendly
- Handling uncommon scenarios
- Emotional intelligence
- Consistency
- Math/counting
- Remembering beyond context limits



“What tasks take up most of your time?”



Keep an LLM like ChatGPT or Gemini open in a tab & challenge yourself to use it as an assistant throughout your day



Don't:

- Submit confidential or PII info
- Submit large, complex or multi-step tasks
- Use for human-centric tasks like being empathetic, crisis communication, helping at-risk populations of people
- Feel that you have to be super technical, educated or experienced to get started
- Fall for \$ AI Instruction Wrapper Tools

Do:

- Remove or clean/anonymise any confidential info
- Chunk out big or complex tasks into sub-tasks
- Use AI for tasks that free you up to be more present with people
- Think of GenAI as assistive technology & start experimenting with it today
- Customize your prompts for your specific tasks via default interfaces (and APIs/resources if capable or necessary)

Please use GenAI Responsibly

The exponential enshittification of science

"Certainly, here is a list of" scientific garbage that may have been partially written by a factually-challenged bot



GARY MARCUS
MAR 15, 2024



143



112



14

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Evan Washington
@evanewashington

Follow



this is so grim

inclusivity. By embracing the art of decoding jargon, we embark on a journey towards a more connected and informed world, where the benefits of specialized knowledge are shared widely, and the boundaries between experts and lay audiences are bridged. Certainly, here is an expanded list of generic references that you can use as a starting point. If you have specific sources in mind, please provide the details for a more accurate reference list.

References

their design allows engineers to tailor solutions to meet the precise requirements of each project. This adaptability fosters innovation in engineering design and construction methodologies.[3]

[Certainly, here is a list of both Geo-natural and geosynthetic materials commonly used in civil engineering and environmental applications:](#)

Geonatural Materials:

Soil: The natural foundation for construction, used in embankments, foundations, and other earthworks.

success and impact of the clinical trial [8].

[Certainly, here is information about the process of a clinical trial application presented in a point-wise format:](#)

1. Preparation and Planning:
 - a. Define the objectives of the clinical trial and develop a detailed study protocol.
 - b. Assemble a team of investigators, clinicians,

heterogeneous toughening methods, or through the lens of homogeneous strategies, the goal remains crystal clear: crafting resilient, high-performance epoxy resins to support the ever-evolving demands of modern industries (Zerda & Lesser, 2002; Su et al., 2023).

[Certainly, here is a concise summary of the provided sections:](#)

2.1. Rubbers in Epoxy Toughening

Rubbers have been traditionally used to toughen epoxies. There are two categories for rubber toughening (Mi et al., 2022):

1. Reactive Liquid Rubbers

Reactive liquid rubbers, such as CTRN, HTRN, and ATRN,

**u will thik
yohik of
most valuble.**

valubt procept

prompte



Prompt:

Summarize the survey responses below:

Prompt:

Turn the following content into a viral Tweet thread, LinkedIn Post and Instagram Post while maintaining the same writing voice from the content.

Prompt:

provide a VLOOKUP in a CSV to match 'Employee ID' from Sheet1 to Sheet2 and retrieve the corresponding 'Department'.

Prompt:

What are some easy & fun birthday party games that are snake themed?

Prompt:

Explain Quantum entanglement like I'm 15

Prompt:

Here's a dataset containing sales data from the past year across various regions. Identify key trends and patterns in our sales growth.

Prompt:

The following dataset has several missing values and outliers in 'Price' and 'Location' columns. Can you suggest strategies to clean this data?

Job Interview Practice

Prompt:

Help me practice for a data scientist interview by emulating an interview. Ask me one question at a time and I'll answer each before you evaluate my response and we move onto the next question.

Prompt:

Summarize what the code below does and create inline comments



GPT for Sheets™ and ...

Uninstall

ChatGPT in Google Sheets™ and Docs™. Get the full power of AI for inspiration data cleaning, classification, extraction, translation, edition, summarization, writing directly in you...

By: [Talarian](#)

Listing updated: April 23, 2024

 Independent security verification

Text Classification

Prompt:

(“Task: Have a list of fitness related keywords.

Each keyword needs to be categorized into a

primary Category and a Sub-Category. Do this for

Keyword:”, A2)

Prompt:

Getting an error in my code and can't figure out why. Here's the error message [error here] and here's my code [code here]. What's the solution?

Prompt:

What are some ways to better connect with a loved one with dementia?

Prompt:

Help me write a brief email blast notifying subscribers of ...

Summarize long text

Prompt:

Summarize the key takeaways from this financial report:

Prompt:

Turn the following transcription into a How To Guide

Prompt:

What aspects of this proposal might my buyer bring up or dispute in our negotiation

Prompt:

What aspects of this contract, if any, should I be concerned with or ask for clarification on?

Quick Creative Ideation



Prompt:

Futuristic looking headphones shot for a high end magazine advertisement in a night lit wet street campaign

Image Prompt Engineering Framework: SAD SWEET



- ★ **Start big picture:** A forest landscape in morning fog
- ★ **Add details:** Birds and woodland animals playing
- ★ **Describe the subject (if one):** A lone hunter woman reading peacefully under a tree
- ★ **Stylize (get specific):** surrealism shot on DSLR camera
- ★ **Write your prompt as if you're describing the scene to someone**
- ★ **Extra parameters to fine-tune:** aspect ratio (--ar), chaos --chaos (1-100)
- ★ **Experiment with your prompt + Observe others!**
- ★ **Test different prompt combinations**



a forest landscape in morning fog, birds and woodland animals playing, a lone hunter woman reading peacefully under a tree, surrealism shot on DSLR camera, --ar 16:9



closeup of a woman reading peacefully under a tree, a forest landscape in the morning fog, birds and woodland animals playing, surrealism shot on DSLR camera, --ar 16:9

codes & parameters

Commands

Type at the beginning of your text field in discord

- /subscribe** : type this to pay for Midjourney & start creating
- /imagine** : command to start your prompt & create images
- /blend** : allows you to blend together 2 to 5 images
- /settings** : change your image generation preferences
- /remix**: remix mode, you can edit prompts when creating variations
- /tune**: allows you to create your own customized `--style` code
- /describe** : upload an image to generate a 4 prompts / descriptions
- /shorten** : shortens your prompt length
- /info** : stats about your account and this month's usage.
- /fast** : default speed for image generations, uses billable GPU time
- /relax** : a slower, low priority mode that doesn't use billable GPU time
- /turbo** : extra fast mode which is more expensive GPU time usage
- /help** : shows helpful information to help use Midjourney better
- /show** : insert a job ID to view that job in discord

Current Parameters

Add these codes to the end of your prompt (starting from '-')

Works with current algorithm (5.2)

The following are aimed primarily at version 5, 5.1 and 5.2 as some options change depending on the model used.

Aspect Ratio: `--ar` (numeric value)

Change the aspect ratio of your image, in the format of width:height
Example: A happy dog `--ar 16:9` (will be 16 units wide by 9 units tall)

Chaos: `--chaos` (0-100) changes how much variety there is in the image generation grid. 0 = low variation, 100 = highest variation.

Fast Mode: `--fast` add 'Fast mode' to your singular prompt

Relax Mode: `--relax` add 'Relax mode' to your singular prompt

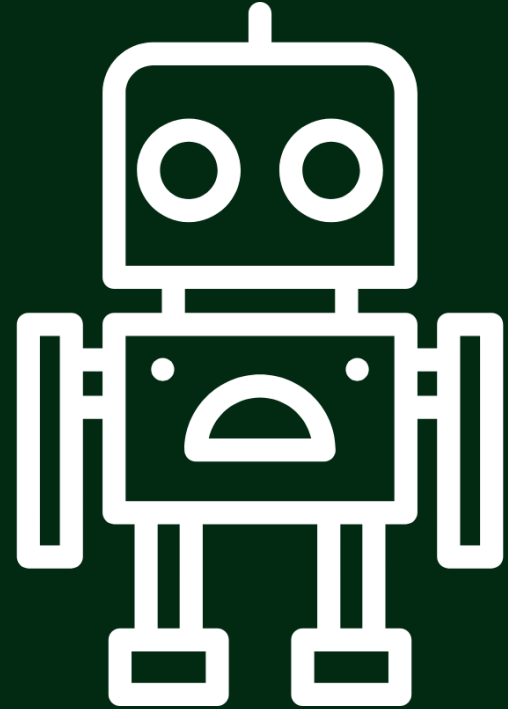
Turbo: `--turbo` add 'Turbo mode' to your singular prompt

Image Weight: `--iw` (0 - 2) change the priority of an image URL in your prompt. 0 = lowest, 2 = highest. 1 = default

Negative Words: `--no` (words) Add words after this parameter to inform

Bonus Prompt Engineering Tips:

- **Ask GenAI (LLMs) for prompting help**
- **Use chain-of-thought (CoT) Prompting**
- **Ask LLMs for help ideating GenAI applications**
 - Prompt: The most time consuming aspects of my day are What ways can generative ai help automate or support these tasks?
- **Don't be afraid to mix & match GenAIs**



Have LLMs not use these words:

UNLOCK
UNLEASH
HARNESS
MASTERY

Delve

As an AI language model

Dive

Discover

Ensure

A dash of

Tapestry

Labyrinth

Tapestry

Testament

Symphony

Sentinel

Resonates

Multifaceted

Embark

Electrifying

Paramount

Esteemed

Myriad

Commendable

Zephyr

Remarkable

Revolutionize

Transformative

Groundbreaking

Rapid pace of development

Paving the way for Bringing us one step closer

Rapidly developing

Cutting-edge

Significantly enhances

Crucially

Drives

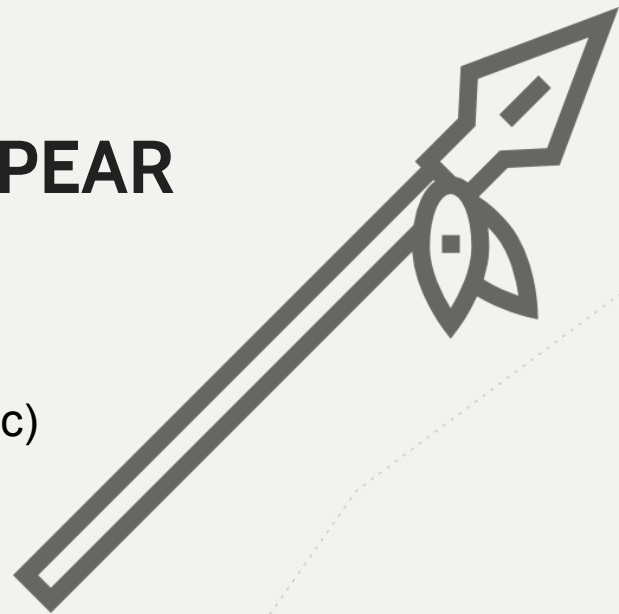
Remarkable



Prompt Engineering Framework: SPEAR

- **S** Start with a problem
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- **A** Ask (clarify your request)
- **R** Rinse & Repeat

Note: Never enter any private or confidential information into an LLM



Automatic Meeting Notes + Data



Edit Video/Audio via Text Editor



descript

SEO Content Brief/Creation



WordCrafter

datasci101.com/what-are-llms-part-1

PART 1

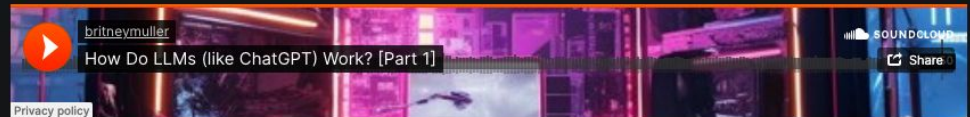
Introduction to LLMs

Large Language Models (LLMs), such as [ChatGPT](#) and [Gemini](#), have been center stage lately, and for good reason. These models can produce astonishing results in response to complex requests, such as writing Shakespearean-style oven cleaning instructions or outlining a book on the Buffalo Bills, with seemingly little effort.

These two silly examples would be difficult for the average person to write. We'd need to research the topics, consider the tone, decide on an organizational structure, etc. but ChatGPT magically does all this simultaneously. How?!

You don't need a technical background to understand the fundamentals of how LLMs work.

Let's demystify this technology so you can effectively wield the power of LLMs and navigate this ever-changing landscape with confidence.



britneymuller · How Do LLMs (like ChatGPT) Work? [Part 1]

@BritneyMuller



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COURSE OVERVIEW

Confidently Move Through The Ever-Changing AI Landscape

Gain essential AI knowledge and hands-on experience with the tools reshaping our world. This course is designed to equip you with the skills to ideate, challenge, test, and create AI-driven strategies that drive real business results.

Develop cutting-edge knowledge and rich GenAI understanding to advance your work and career.

—Previous students have gone on to build internal chatbots, RAG models, and on-premise task-specific solutions with significant business impact.

This course grants you the confidence to articulate AI fundamentals with colleagues, management, and executives + prepares you to guide and support business-critical AI decisions.

Fundamentals of Generative AI

Britney Muller



\$500 USD

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15 people enrolled last week.

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Template: bit.ly/edu-reimbursement

Email template

If you need manager approval, we also provide a reimbursement template that you can forward. Let your manager know you're interested in a course that will improve your work.

Sure, you could say the course aligns with your career goals, but what your manager REALLY cares about is whether the course will help your company make money or save money. That's why you must *frame the course in terms of how it benefits your manager, team, and organization*.

This will make the course feel like a no-brainer and create a sense of urgency. Show that your team will fall behind if you don't take this course — or will get ahead if you do.

Managers are more likely to approve purchases that feel like painkillers, not vitamins.

Hey {manager},

Copy text

There's a course called [Fundamentals of Generative AI](#) that I'd love to enroll in. It's a live, online course with peers who are in similar roles to me, and it's run on Maven, where 25,000+ professionals from companies like Meta, Google, Airbnb, and NASA go to level up when they need to learn quickly and efficiently.

A few highlights:

- Direct access to [Britney Muller](#), the expert instructor teaching the course
- Hands-on working sessions to test new tactics and ideas
- Latest thinking in the space on how to solve problems we're facing

I anticipate being able to put my learnings directly into practice during the course. After the course, I can share the learnings with the team so our entire team levels up.

The course costs **\$500 USD**. If you like, you can review course details here, including the instructor's bio: <https://maven.com/britney-muller/generative-ai-fundamentals>

What do you think?

Thanks,
{Your Name}

For anyone needing additional financial
assistance:

bit.ly/genai-scholarship

Fundamentals of GenAI [Scholarship Application]

This scholarship program is designed to provide access to the [Fundamentals of Generative AI course](#) for individuals who, without financial assistance, would not be able to participate. Our goal is to enable more learners to explore and excel in Artificial Intelligence/Machine Learning. ❤️ Deadline: May 10th, 2024

Thank You!!!



Britney Muller

AI/ML Consultant, Entrepreneur
Former Hugging Face



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britneymuller@gmail.com

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