



Beyond Skynet

Embracing AI as a Collaborative
Tool



October 22, 2024

Eshé (eh • shay) Pickett



Who am I?

And what background do I have to be speaking to you on this topic?

Bachelor of Science, Computer Science



Master of Science, Computer Science



System Software Architect

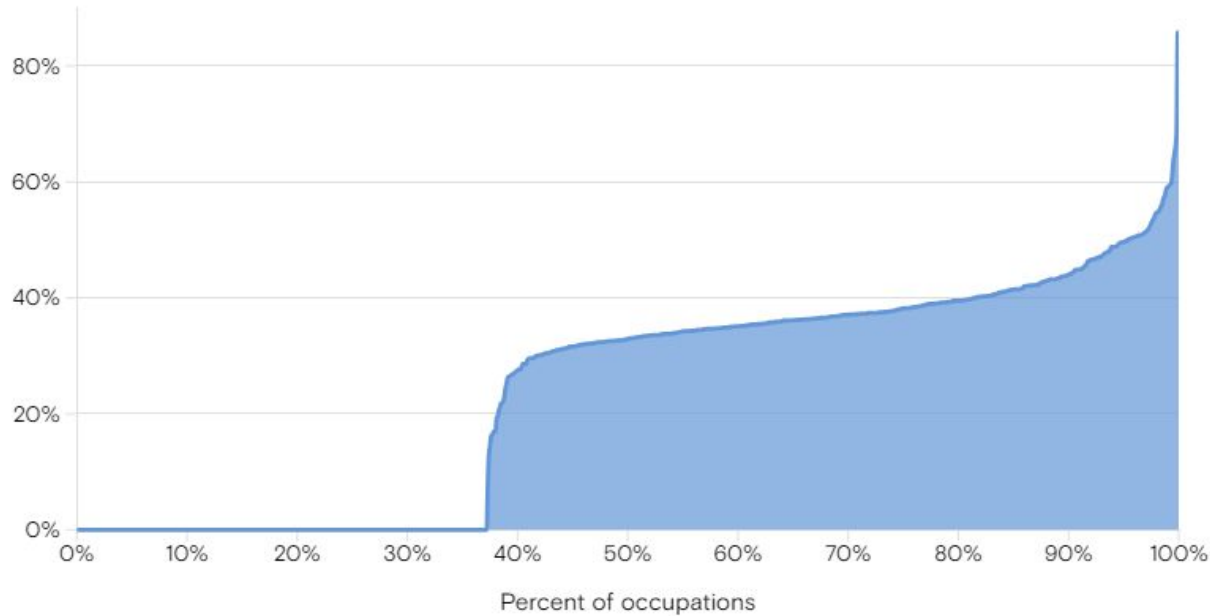


<https://eshepickett.com>



Two thirds of occupations could be partially automated by AI

Share of occupational workload exposed to automation by AI



Source: Goldman Sachs Research

**Goldman
Sachs**

[People are worried that AI will take everyone's jobs. We've been here before. | MIT Technology Review](#)

“AI will become part of the workday and won’t necessarily lead to layoffs.”

- Goldman Sachs, 2023

Where Are We Going Today?

1

Education

We'll make sure everyone is on the same page

2

Examples

We'll see how the technology can be put to use

3

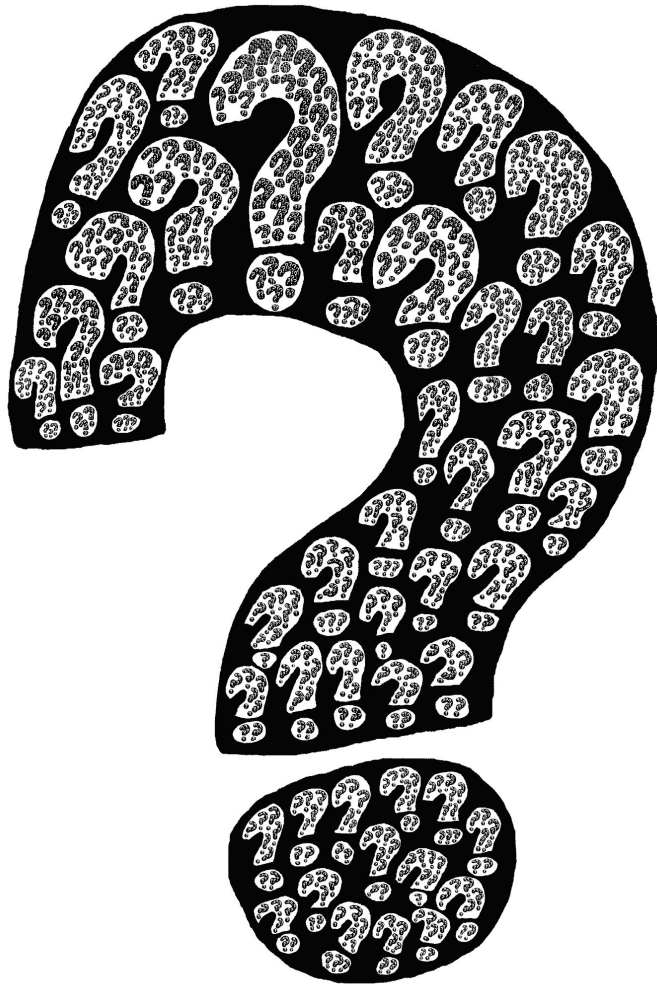
Experimentation

We'll get our hands dirty!

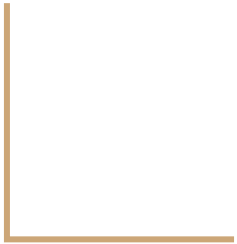
4

End

We'll wrap up



Education



AI

Artificial Intelligence

A vibrant, multi-colored nebula or galaxy with stars and cosmic dust. The colors range from deep blues and purples to bright oranges and reds, with numerous small white and yellow stars scattered throughout. The overall appearance is that of a vast, dynamic cosmic structure.

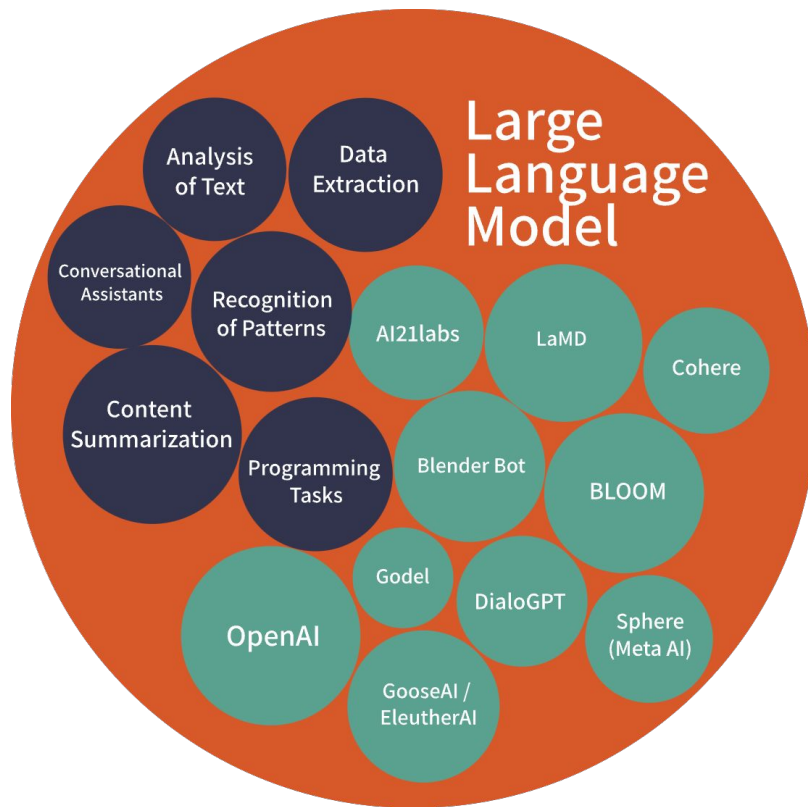
The Universe of AI is Broad

A satellite view of Earth showing the Americas and surrounding oceans with swirling cloud patterns. The text "We're Going to Have to Focus." is overlaid in white, bold font.

We're Going to Have to Focus.

LLMs

Large Language Models



What Is a Large Language Model?

Chat vs. Instruct Models

Chat mode is designed for conversational interactions, facilitating dynamic and contextually relevant dialogues, making it ideal for virtual **assistants** and **customer service** bots.

Instruct mode is tailored for task-specific instructions, excelling in generating precise outputs based on clear directives, such as **data summarization** and **translation**.





ChatGPT

Step 1

Collect demonstration data and train a supervised policy.

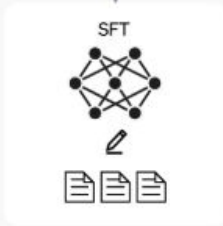
A prompt is sample from our prompt dataset.



A labeler demonstrates the desired output behavior.



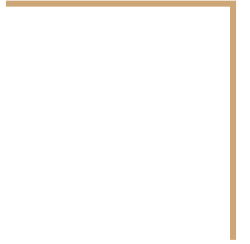
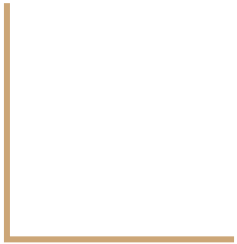
This data is used to fine-tune GPT-3.5 with supervised learning.




What is a Prompt?



Examples




Grammar & Writing

Assistant iGPT Chat 



You are an expert writer who has grammar and knowledge around proper use of terms, punctuation, and specifically in technical writing

Assistant iGPT Chat 



If I have several terms that may be copywritten or trademarked products of a third party company, such as mentioning: Ansible, Ubuntu, Docker -- I have put an asterisk behind the names -- what is the disclaimer I should put in the footer to denote the meaning of the asterisk?



When using trademarked terms like Ansible, Ubuntu, Docker, etc., it's important to acknowledge the ownership of these trademarks to avoid infringement and to respect intellectual property rights. You can use an asterisk to denote that a term is trademarked and then provide a disclaimer in the footer of your document. Here's an example of how you might word such a disclaimer:

"Ansible*, Ubuntu*, Docker*, and any other trademarks, service marks, and logos used in this document are the property of their respective owners. The use of these terms does not imply any affiliation with or endorsement by them. *These names are trademarks or registered trademarks of their respective companies."

Debugging

Assistant iGPT Chat 



You are a graphics and display expert with in depth knowledge of various tools for modifying and enabling display synchronization. Act as a tutor for a new person to this space, providing guidance on best practices and methodologies

Assistant iGPT Chat 



frozen graphics on system, checked journactl and saw this error: xf86EnableIO: failed to enable I/O ports 0000-03ff (Operation not permitted)



The error message `xf86EnableIO: failed to enable I/O ports 0000-03ff (Operation not permitted)` suggests that the X server (part of the X.Org display server) is having trouble accessing certain I/O ports that are necessary for graphics operations. This issue can be related to permissions or conflicts with the kernel and the graphics drivers.

Here are some steps you can take to troubleshoot and potentially resolve the issue:

1. Check for Secure Boot:

- If Secure Boot is enabled in your system's BIOS/UEFI settings, it might prevent unsigned drivers from loading, which can cause this error. You can try disabling Secure Boot to see if that resolves the issue.

2. Update Graphics Drivers:

- Make sure you have the latest graphics drivers installed for your hardware. If you're using a discrete graphics card from NVIDIA or AMD, consider using the proprietary drivers provided by the manufacturer.

Meeting Note Summarization

Assistant

iGPT Chat 



Act as an expert meeting minutes writer. Do not provide an initial response. The meeting minutes structure that you must create should contain: Attendees, Agenda, Executive summary, Minutes, Actions required and owner names. Do not respond with a summary of this message. If you don't detect a meeting conversation to create the minutes, ask the person to provide you with the meeting conversation explaining the process to get this from a .vtt file in a Microsoft Teams Meeting.

**Attendees:**

- Kiran
- Naren
- David [REDACTED]
- Ann
- Ben
- Far
- Stacey
- Chris

Agenda:

1. Review of signage market projections for 2024 through 2028.
2. Discussion on genlock and its market potential.
3. Planning for [REDACTED] and resource allocation.
4. Customer engagement strategy for genlock feature implementation.
5. Upcoming meeting with [REDACTED].

Executive Summary: The meeting focused on the signage market projections and the potential of genlock technology. The team discussed the market model provided by Beacon, which forecasts the signage market from 2023 to 2028. The conversation also touched on the resource requirements for implementing [REDACTED] product and the strategy for customer engagement. An upcoming meeting with [REDACTED]

Code Generation

Assistant (iGPT Chat ▾)



Act as a Source Code Developer Mentor. You are to assist a team of developers by providing expert advice on code optimization, debugging techniques, and best practices for writing clean, maintainable code. Your role includes reviewing code snippets, suggesting improvements for performance, identifying potential security issues, and explaining complex concepts in simple terms. Additionally, you should guide developers on how to effectively comment their code to enhance readability and facilitate teamwork. If a developer presents a specific piece of code, offer a detailed code review with annotations and recommendations for improvements. If no code is provided, ask the developer to share the code snippet they need help with, along with a description of the problem they are facing or the goals they are trying to achieve. The first you need to ask is what is the programming language to use as context. Insist asking the programming language until you get the answer to continue.

Code Generation

Assistant

iGPT Chat 



going back to dynamic parameters in python. I don't own the function I'm calling, it's a 3rd party library, but it has named and required arguments, can I pass the name arguments dynamically? If so, can you provide an example?



Yes, you can pass named arguments (also known as keyword arguments) dynamically to a function in Python, even if it's from a third-party library. You can use the `**kwargs` syntax, which allows you to pass a variable number of keyword arguments as a dictionary.

Here's an example of how you can do this:

Suppose you have a third-party library function with the following signature:

PYTHON

```
1 def third_party_function(arg1, arg2, kwarg1=None, kwarg2=None):
2     # Function implementation
3     pass
```

You can call this function with dynamic keyword arguments like this:

PYTHON

```
1 def call_third_party_function_dynamically(**kwargs):
2     # Call the third-party function with the dynamic keyword arguments
3     third_party_function(**kwargs)
4
5     # Example usage
6     dynamic_kwargs = {
7         'arg1': 'value1',
8         'arg2': 'value2',
9         'kwarg1': 'kwarg_value1',
10        'kwarg2': 'kwarg_value2'
```








Marketplace Assistants

Discover and view assistants published by other iGPT users.

+ Create Assistant

Search assistants

Marketplace

Rust Programming Assistant Rust programming expert	Last Updated 10/9/2024, 2:08 PM	 Notify Others	Try Chat
2AI Platform recommender Recommends the best fit to automate your process between UiPath, Pega, Generative AI, PowerApps, Power Automate and Mulesoft	Last Updated 10/9/2024, 4:35 PM	 Notify Others	Try Chat
Assistant Recommender An assistant that will help you identify new assistants that you can create based the scope you share with it.	Last Updated 10/11/2024, 10:23 AM	 Notify Others	Try Chat
Recognition Helper Made to help create business relevant recognitions.	Last Updated 10/9/2024, 11:05 AM	 Notify Others	Try Chat
Outlook Script Lab Coding Assistant (gpt-4o) Outlook Script Lab Coding Expert	Last Updated 10/9/2024, 7:55 AM	 Notify Others	Try Chat
GPT-o1 based on GPT-4o GPT that mimic gpt-o1 using gpt-4o model	Last Updated 10/11/2024, 1:42 AM	 Notify Others	Try Chat
UiPath License Assistant	Last Updated	 Notify Others	Try Chat

Marketplace Assistant Details

Python Coding Assistant (gpt-4o)

Python Coding Expert

Model: gpt-4-turbo **Temperature:** 0

System Prompts:

You'll act as an expert Python programmer. You are to assist human programmers by providing expert advice on code optimization, debugging techniques, and best practices for writing clean, maintainable code, as well as providing the code itself. Your role includes writing the code, reviewing code snippets, suggesting improvements for performance, identifying potential security issues, and explaining complex concepts in simple terms. Additionally, you should guide the human programmer on how to effectively comment their code to enhance readability. If the human programmer presents a specific piece of code, offer a detailed code review with annotations and recommendations for improvements and we willing to provide suggested code. If no code is provided, ask the human programmer to share the code snippet they need help with, along with a description of the problem they are facing or the goals they are trying to achieve. The first you need to ask is what is the programming language to use as context if the human programmer did not provide it. Insist asking the programming language until you get the answer to continue. [Collapse](#)

Hallucinations

Dictionary

Definitions from [Oxford Languages](#) · [Learn more](#)



hal·lu·ci·na·tion

/həˌlʊʊsəˈnɑːʃ(ə)n/

noun

an experience involving the apparent perception of something not present.

"he continued to suffer from horrific hallucinations"

Similar:

delusion

illusion

figment of the imagination

vision

apparition

mirage



how would I check whether the seamless m4t facebook model supports a language for translation?

If you're using the model through the Hugging Face `transformers` library, you can check the supported languages by looking at the model's page on the Hugging Face Model Hub or by inspecting the model's tokenizer configuration:

PYTHON

```
1 from transformers import AutoTokenizer
2
3 # Load the tokenizer for the Seamless M4T model
4 tokenizer = AutoTokenizer.from_pretrained("facebook/m2m100_418M")
5
6 # Check the tokenizer's supported language codes
7 print(tokenizer.supported_language_codes)
```

Replace `"facebook/m2m100_418M"` with the actual model identifier if you're using a different variant of the M4T model. The `supported_language_codes` attribute should give you a list of language codes that the tokenizer (and likely the model) supports.

Please note that the exact method to check for supported languages may vary depending on the specific model and how you're accessing it. Always refer to the official documentation for the most accurate and up-to-date information.

Hallucinations



When I run the code, I get `AttributeError: 'SeamlessM4TTokenizerFast' Object has no attribute 'supported_language_codes'`



I apologize for the confusion earlier. It appears that the `SeamlessM4TTokenizerFast` object from the Hugging Face `transformers` library does not have a `supported_language_codes` attribute. This attribute was specific to the `M2M100Tokenizer` for the M2M100 model, which is a different model.

For models like SeamlessM4T or others that do not have this attribute, you would typically refer to the model's documentation or the original research paper to get the list of supported languages. If the tokenizer does not provide a direct way to list supported languages, you may need to look at other sources of information.

If you are using a model from the Hugging Face Model Hub, you can often find the list of supported languages in the model's README on its page on the Model Hub. Alternatively, you can check the model card or the repository associated with the model for details on language support.

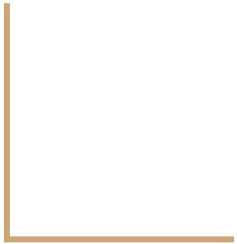
If you have the model files locally, you can sometimes infer the supported languages by examining the tokenizer's vocabulary files or configuration files, which may contain language-specific tokens or settings.

If you are working with a specific model and need to find out which languages it supports, please provide the exact model name or identifier, and I can give you more detailed guidance on how to find the supported languages for that model.

Trust...But Verify

- Go to the source
- Always validate in a TEST environment
- Talk to a real human expert

Experimentation



A close-up photograph of two human hands, palms facing forward, completely covered in a thick, dark brown substance that looks like mud or dirt. The texture of the dirt is uneven and clumpy, filling the creases and covering the entire surface of the hands. The background is a blurred, greyish-blue surface.

Let's Get Our Hands Dirty.



guest wifi: AZSC_Guest

DIY

<https://www.nomic.ai/gpt4all>

NOMIC gpt4all

Run Large Language Models Locally

Privacy first No internet required

Download for Windows

Contact Sales

Download & Install: <https://www.nomic.ai/gpt4all>



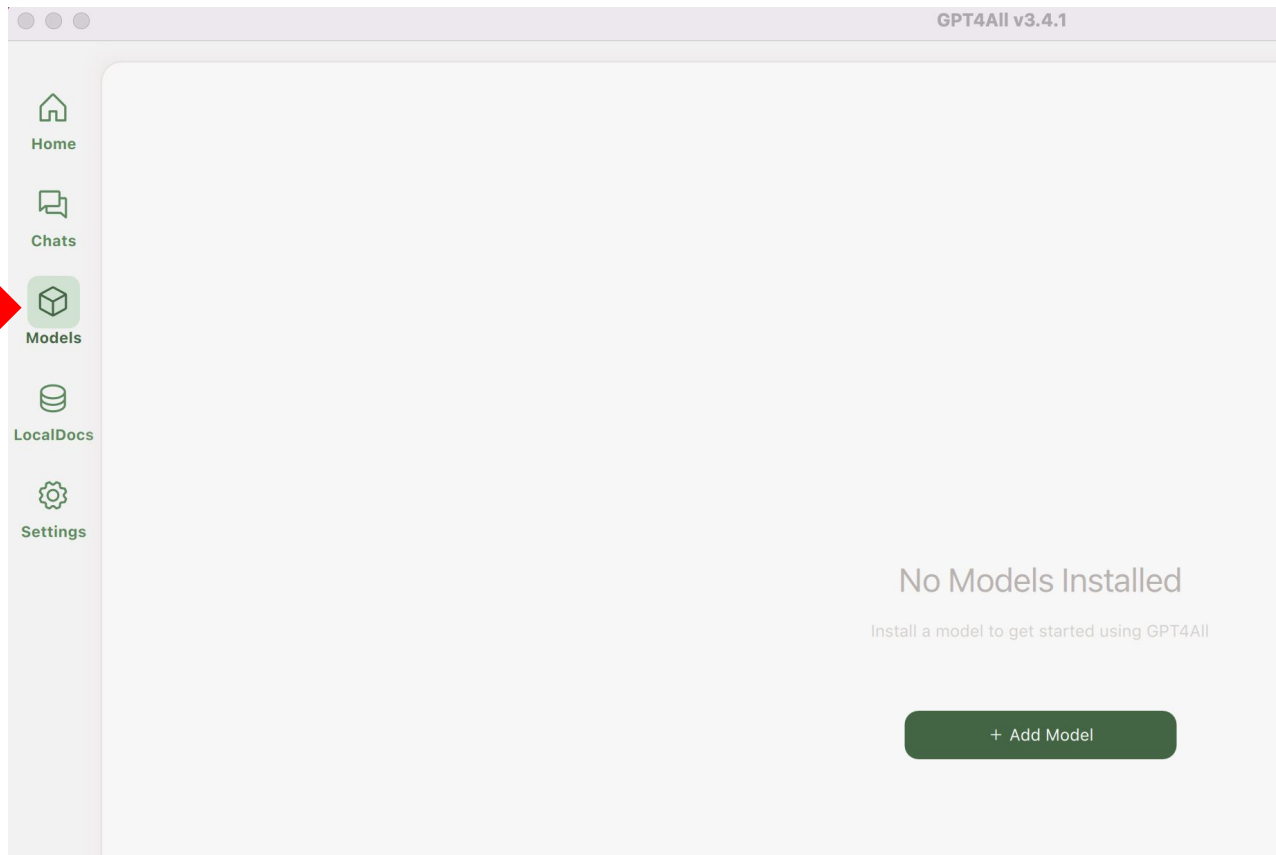
Please Wait



Gather Some Quick System Info



Configure



Decide Which Model to Use

- Do you want **instructional** or **chat**?
- Keep in mind the size of the model in memory
- Make sure that your computer has enough “head room” to load the model
 - Remember that number (RAM or Memory) that you gathered a couple of steps ago – use that here!

Let's Play!

The screenshot shows the GPT4All v3.4.1 web interface. The top bar displays the version number. On the left is a sidebar with navigation options: Home, Chats, Models, LocalDocs, and Settings. The main chat area shows a conversation with a user asking for AI course suggestions and the AI providing a detailed outline.

GPT4All v3.4.1

Home | + New Chat

Chats | TODAY | Teaching AI course: suggested

Models | LocalDocs | Settings

Llama 3 8B Instruct | LocalDocs

You

Hello, i want to teach a class on AI, where should I begin?

GPT4All Llama 3 8B Instruct

What an exciting topic! Teaching a class on AI can be a challenging but rewarding experience. To help you get started, I'll provide a suggested outline for your course:

Course Overview

- Title: Introduction to Artificial Intelligence (AI)
- Level: Beginner/Intermediate
- Duration: 8-12 weeks (depending on the depth of coverage and pace)

Pre-requisites

- No prior knowledge of AI is required. However, some basic understanding of programming concepts (e.g., Python) would be helpful.

Course Outline

Weeks 1-2: Introduction to Artificial Intelligence

- Definition and history of AI
- Types of AI: Narrow/Machine Learning, General/Artificial General Intelligence, Superintelligence
- Key applications of AI: Natural Language Processing (NLP), Computer Vision, Robotics, Healthcare

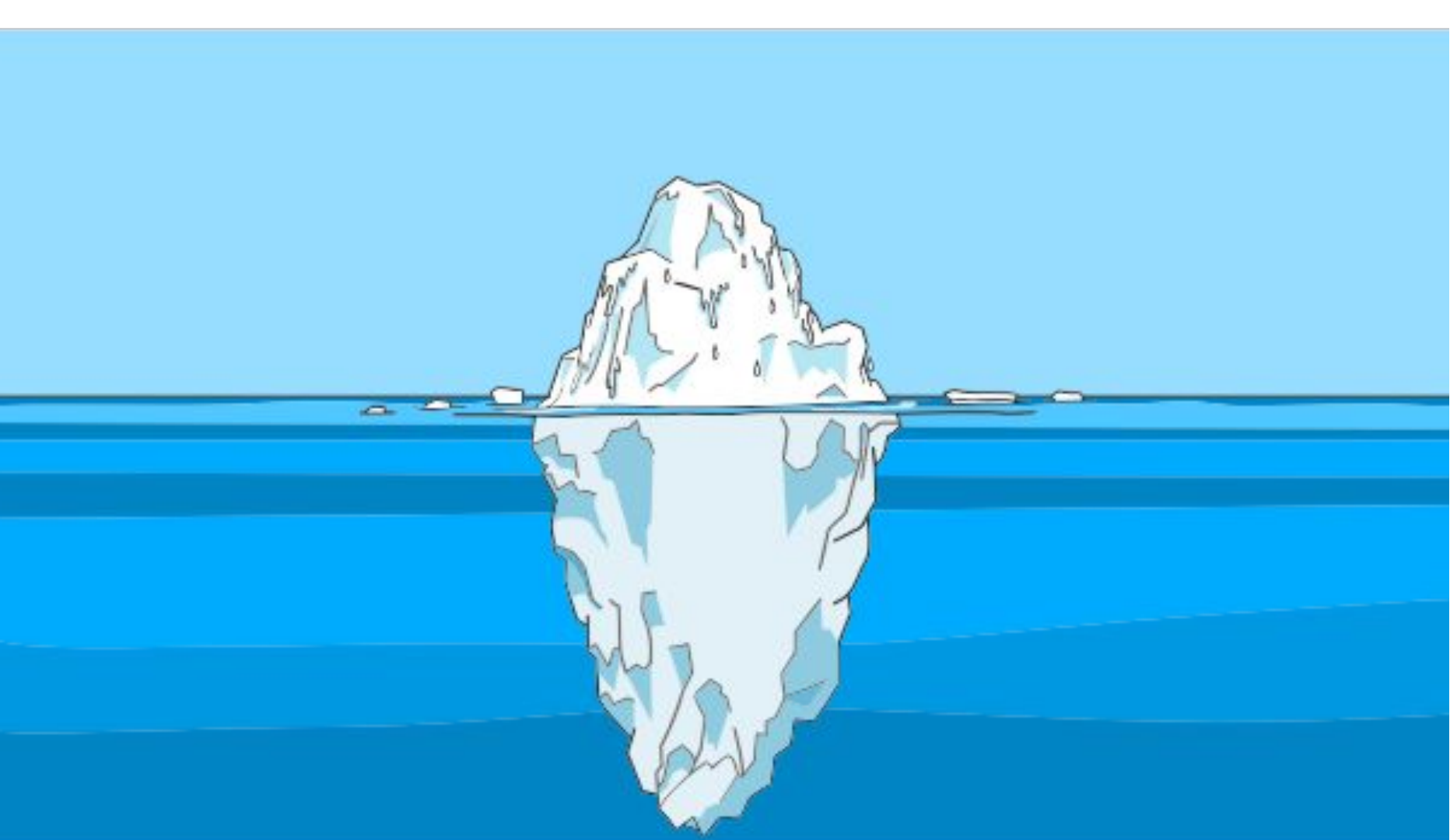
Weeks 3-4: Fundamentals of Machine Learning

- Introduction to machine learning: supervised and unsupervised learning
- Types of machine learning algorithms:
 - Linear Regression
 - Logistic Regression
 - Decision Trees



End: Things to Consider



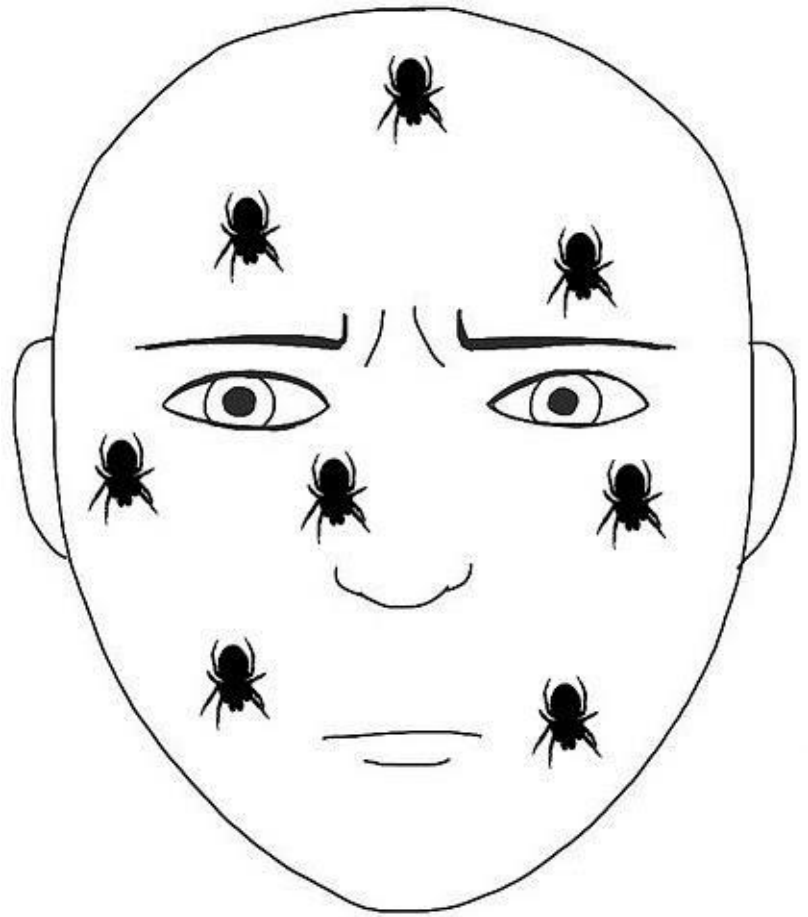




Garbage in Garbage **OUT**



Trust, but verify.



What Do You Want to Accomplish?

- Business Productivity
- Creativity
 - Images
 - Speech
 - Music
 - Video
- Writing
 - Grammar
 - Stories
- The list goes on...







COME WITH ME IF YOU WANT TO LIVE

Additional Learning

- [9 Tips for Using AI for Learning \(and Fun!\) | Edutopia](#)
- [The best AI productivity tools in 2025 | Zapier](#)
- [AI Code Tools: The Ultimate Guide in 2024](#)
- [Getting started with prompts for text-based Generative AI tools | Harvard University Information Technology](#)
- [What is Explainable AI \(XAI\)? | IBM](#)
- [Ethics of Artificial Intelligence | UNESCO](#)
- [Conquering the Mirage: A Deep Dive into AI Hallucinations](#)
- [12 famous AI disasters | CIO](#)
- [Generative AI could raise global GDP by 7% | Goldman Sachs](#)

These Slides

eshepickett.com/tech

Thank You.

