



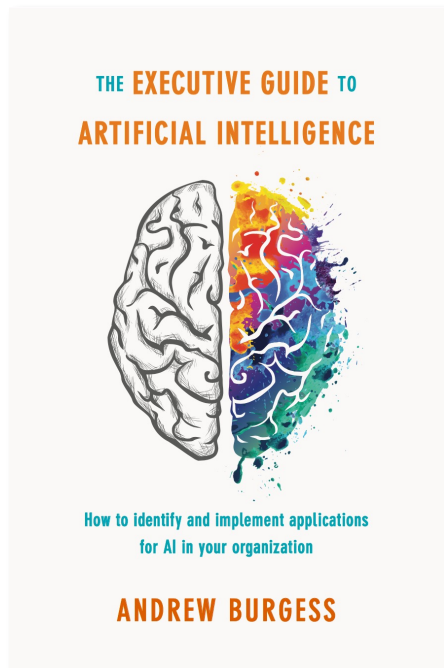
# winmark

AI Strategies &  
Applications in  
Business



# Andrew Burgess

thegreenhouse.ai



Imperial College  
London  
Enterprise Lab



greenhouse  
intelligence



SLAUGHTER  
AND MAY

syngenta

EVERSHEDS  
SUTHERLAND

Aldermore



BLP BERWIN  
LEIGHTON  
PAISNER



compare  
themarket™

ForViva

direct line

STONEWATER

communisis AI  
AN OSG COMPANY

NATURAL  
HISTORY  
MUSEUM

**EIGHT  
QUESTIONS...**



2




**What is AI  
anyway?**

A large, white, hollow outline of the number '3' is positioned on the left side of the image. The background is a detailed street map with a grid of roads, some highlighted in orange and red, and various green and blue markers. A red pushpin is stuck into the map in the upper right quadrant.

**Where are  
we now?**

4

A photograph of Pope Francis wearing a white puffer jacket and a white zucchetto, walking outdoors. The background is slightly blurred, showing other people in winter clothing.

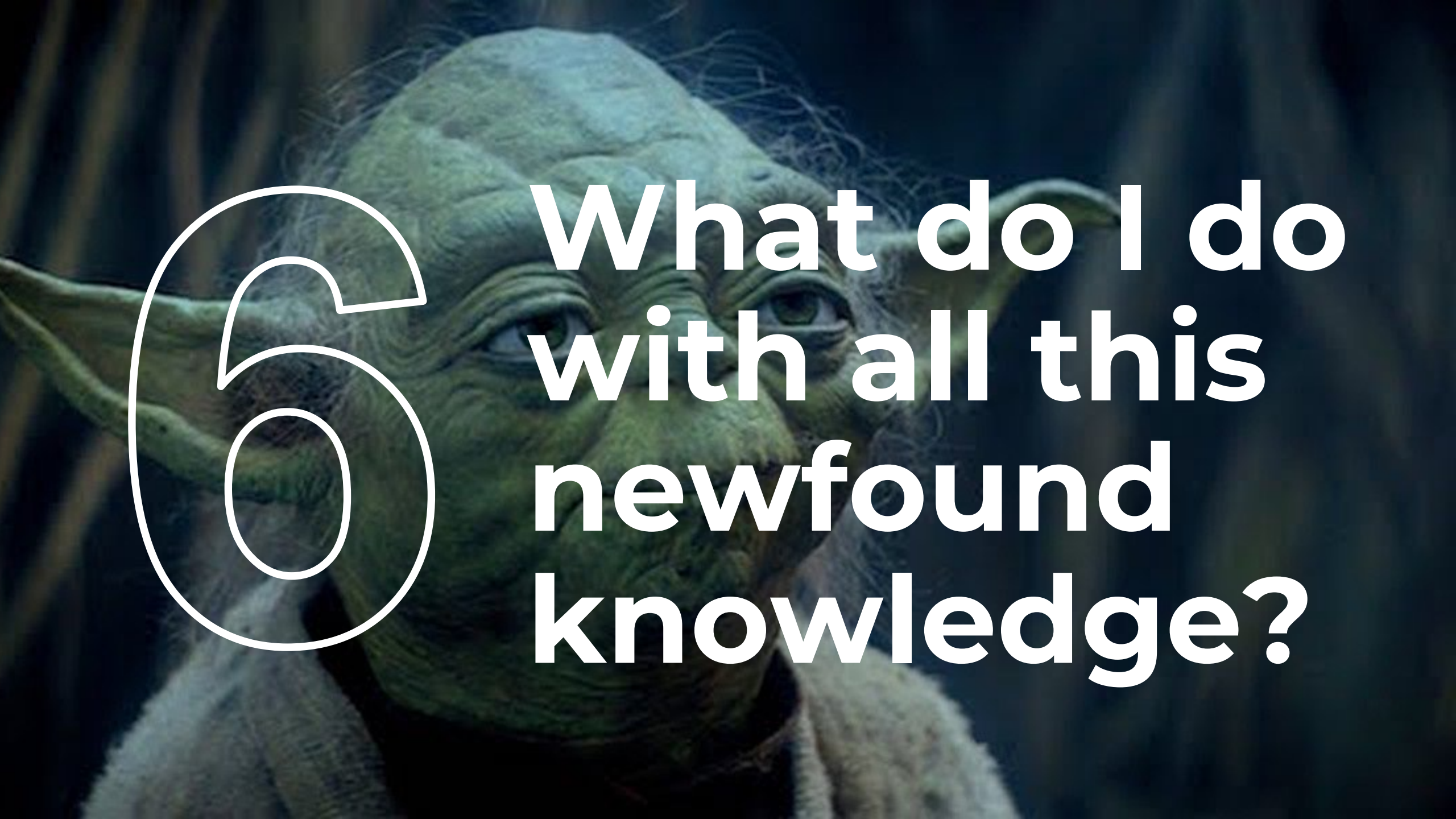
**How does  
Generative  
AI fit into all  
of this?**



5

What could  
possibly go  
wrong?

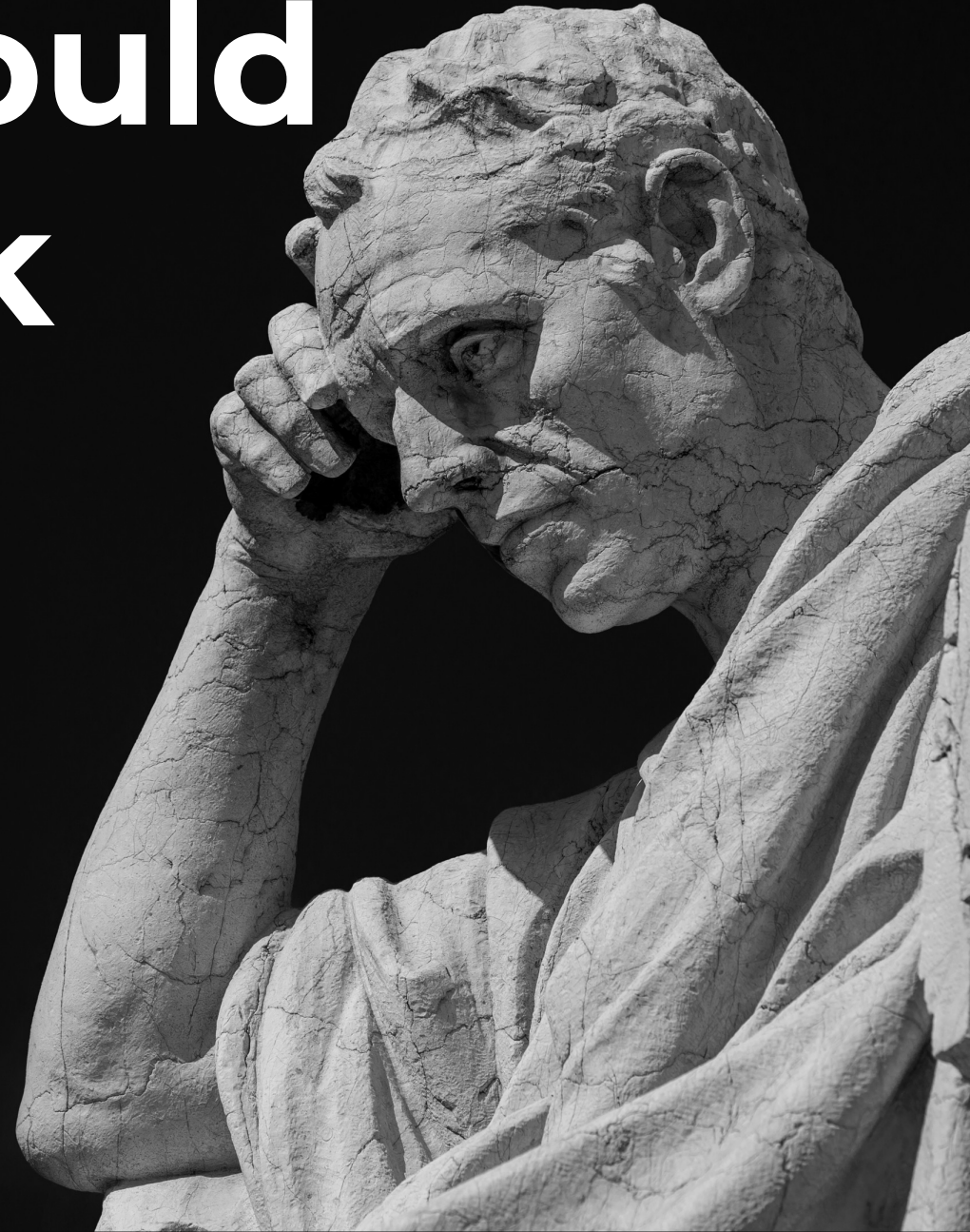


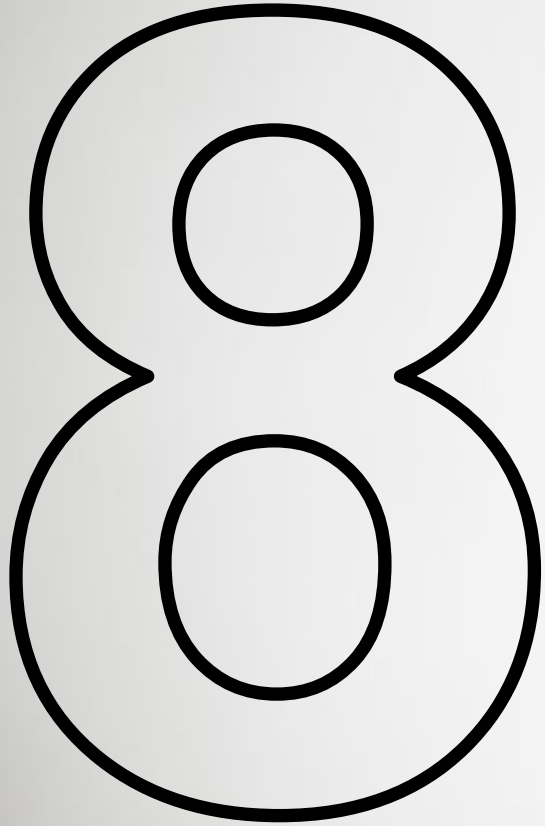


**What do I do  
with all this  
newfound  
knowledge?**

7

How should  
we think  
about  
AI?





**Where  
do we  
go  
from  
here?**



QUESTIONS

Q&A

BREAK-OUT GROUPS

BREAKS



**BALLOT  
BOX**

# MY KNOWLEDGE OF ARTIFICIAL INTELLIGENCE CAN BEST BE SUMMED BY:

- A. I'VE SEEN SOME COOL FILMS ABOUT AI
- B. I KNOW THAT I USE AI IN SOME OF THE GADGETS AND APPS THAT I HAVE
- C. I'VE USED SOME AI IN MY WORK
- D. I'M A DATA SCIENCE NINJA







**BIG**

**DATA**



**STORAGE**

# SPEED



A top-down view of a complex network of multi-colored wires (blue, green, orange, white) plugged into a dark brown terminal block. The wires are bundled and looped, creating a dense web of connections. The terminal block has several rows of screws, and some numbers like '7', '6', '5', and '4' are visible on the bottom edge. The word 'CONNECTIVITY' is written in large, white, bold, sans-serif capital letters across the center of the image.

CONNECTIVITY

1956



Introducing the extraordinary  
IBM 5110 Computing System

1975



Under \$18,000

1982

**\$3398**  
**10MB**

**THE HARD DISK**  
**YOU'VE BEEN WAITING FOR**

**MORE SOFTWARE**  
Included with the system is software for testing, formatting, I/O drivers for CP/M<sup>®</sup>, plus an automatic CP/M driver attach program. Support software and drivers for MP/M<sup>®</sup> and Oasis<sup>®</sup> are also available. The sophisticated formatting program assigns alternate sectors for any weak sectors detected during formatting, assuring the lowest possible error rate — at least ten times better than floppies.

**MORE STORAGE**  
• **MORE SPEED**  
• **MORE VALUE**  
• **MORE SUPPORT**

The XCOMP subsystem is now available in 5 megabyte and 10 megabyte versions. The XCOMP subsystem is now available in 5 megabyte and 10 megabyte versions. The XCOMP subsystem is now available in 5 megabyte and 10 megabyte versions. The XCOMP subsystem is now available in 5 megabyte and 10 megabyte versions.

**WARRANTY**  
The system has a full one-year warranty on parts and labor.



1

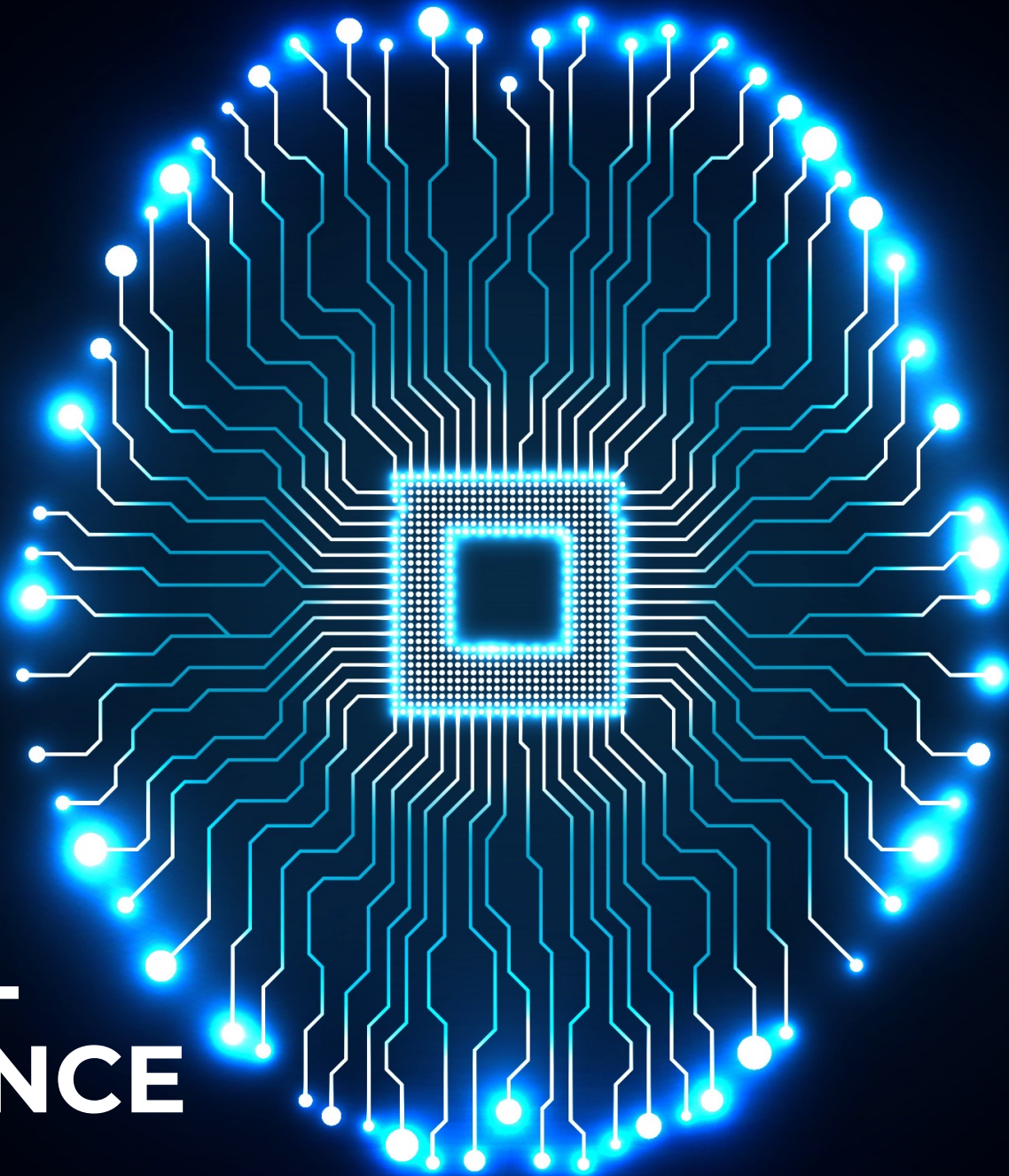


**What is AI  
anyway?**



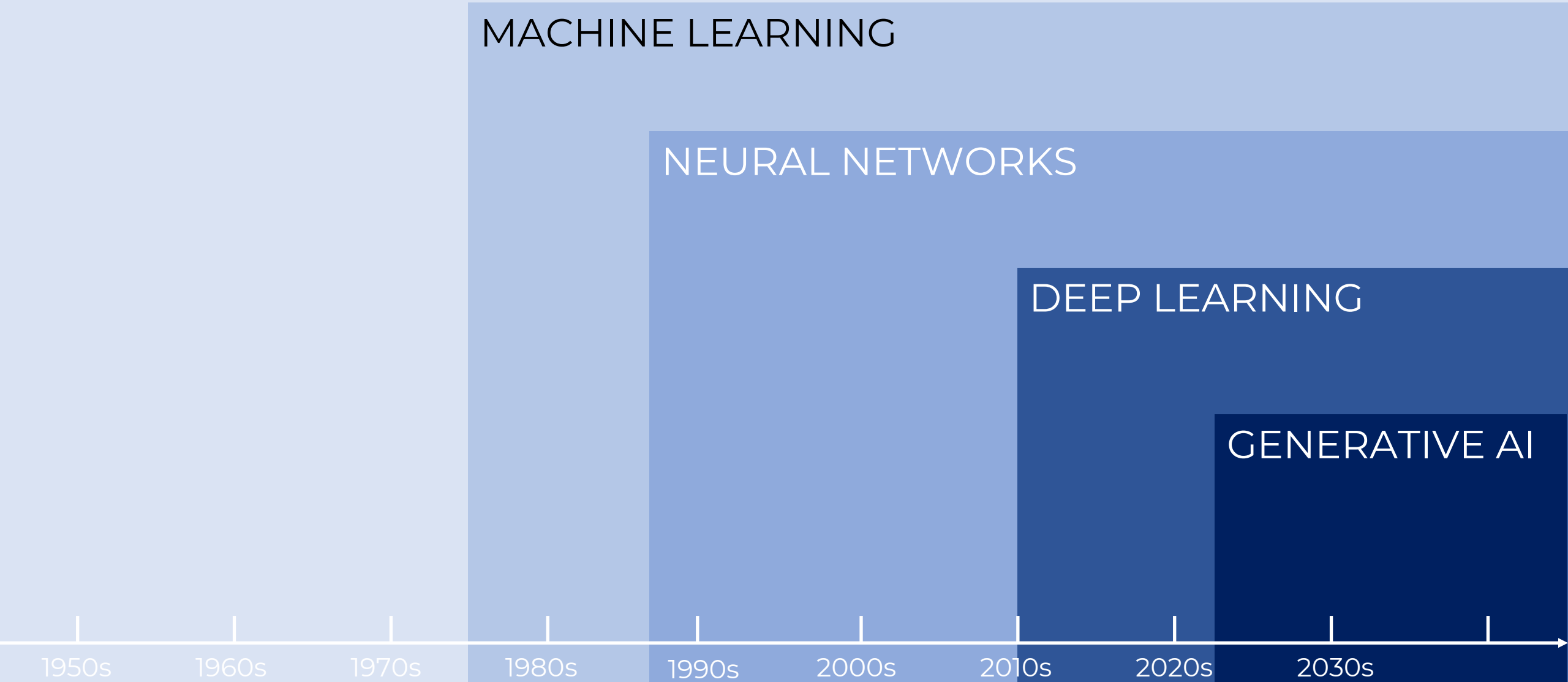


# ARTIFICIAL INTELLIGENCE



“The theory and development of computer systems able to perform tasks normally requiring human intelligence”

# ARTIFICIAL INTELLIGENCE



MACHINE LEARNING

NEURAL NETWORKS

DEEP LEARNING

GENERATIVE AI

1950s

1960s

1970s

1980s

1990s

2000s

2010s

2020s

2030s

# HOW ML WORKS

1.

FEED  
THE AI  
LOTS OF  
DATA

2.

IT LEARNS  
THE PATTERNS  
WITHIN THE  
DATA

3.

IT CREATES  
A MODEL OF  
THOSE  
PATTERNS

4.

WE USE THE  
MODEL TO  
MAKE  
PREDICTIONS  
ON NEW DATA

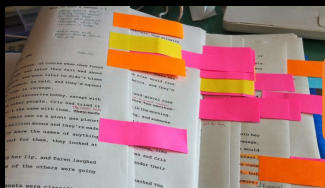
## CAPTURE INFORMATION



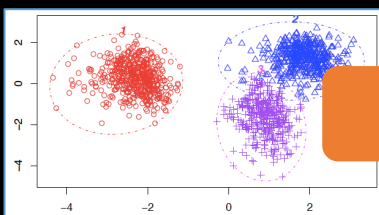
Image  
Recognition



Speech  
Recognition

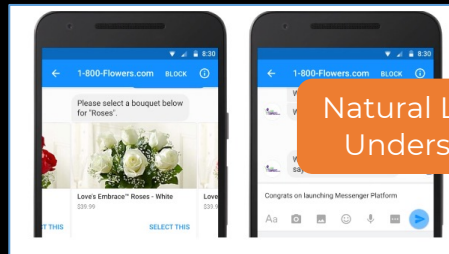


Natural Language  
Processing



Clustering

## WHAT IS HAPPENING?



Natural Language  
Understanding



Reasoning and  
Problem Solving



Prediction

## WHY IS IT HAPPENING?



Understanding

## GENERATING INFORMATION



Text

Code

Images

A large, white, hollow outline of the number '3' is positioned on the left side of the image. The background is a detailed street map with a grid of roads, some highlighted in orange and red, and various green and blue markers. A red pushpin is stuck into the map in the upper right quadrant.

**Where are  
we now?**

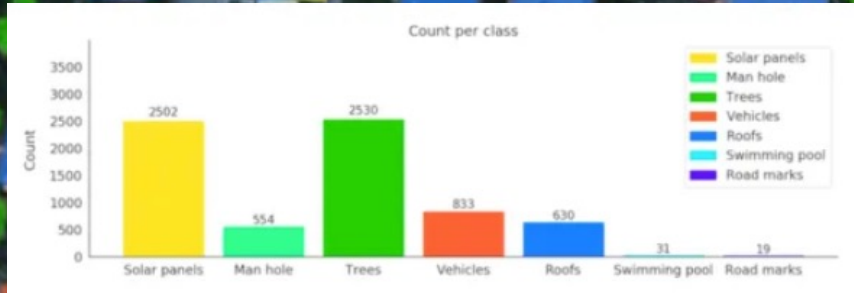


Image  
Recognition

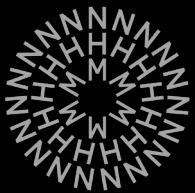
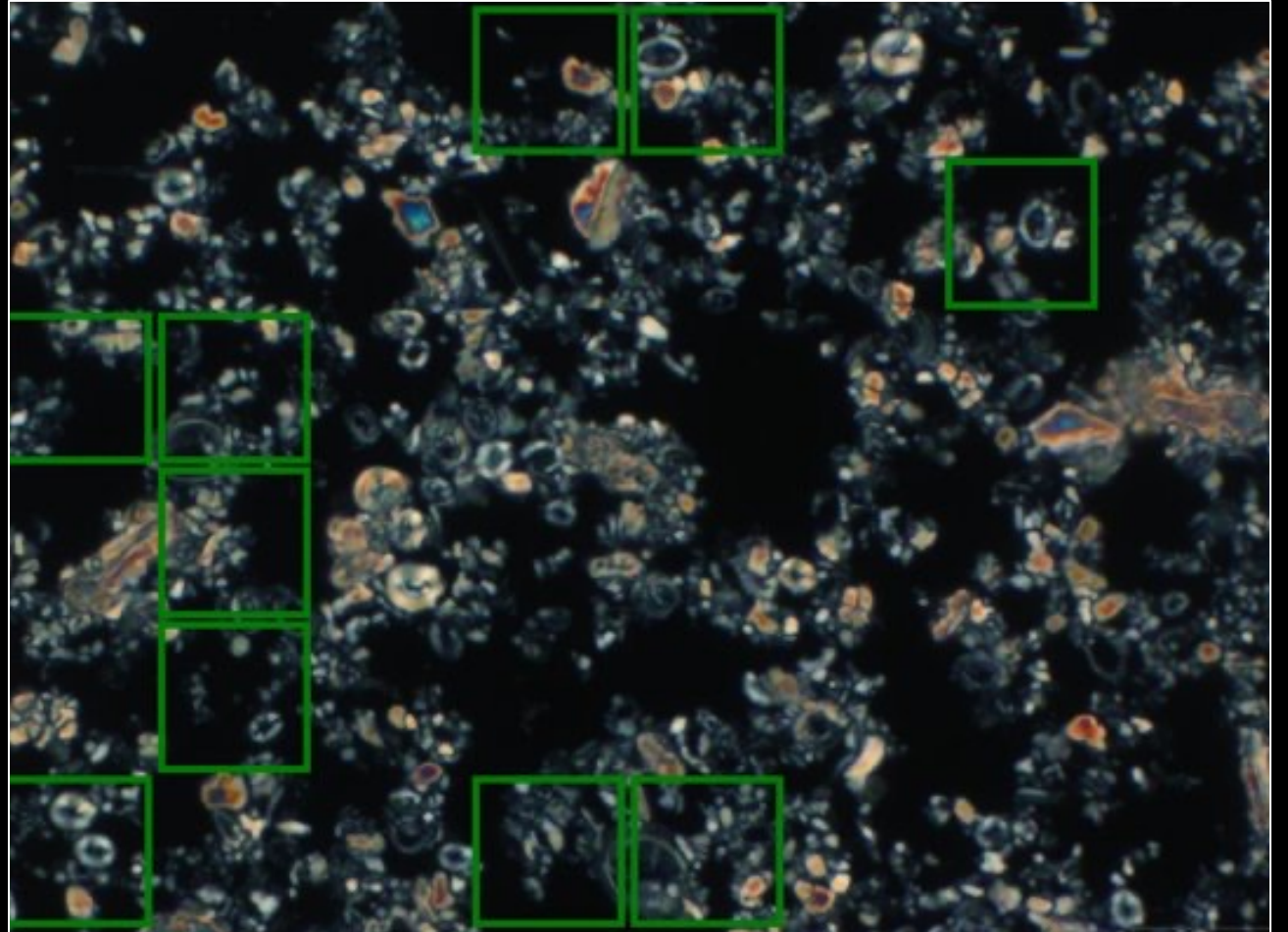
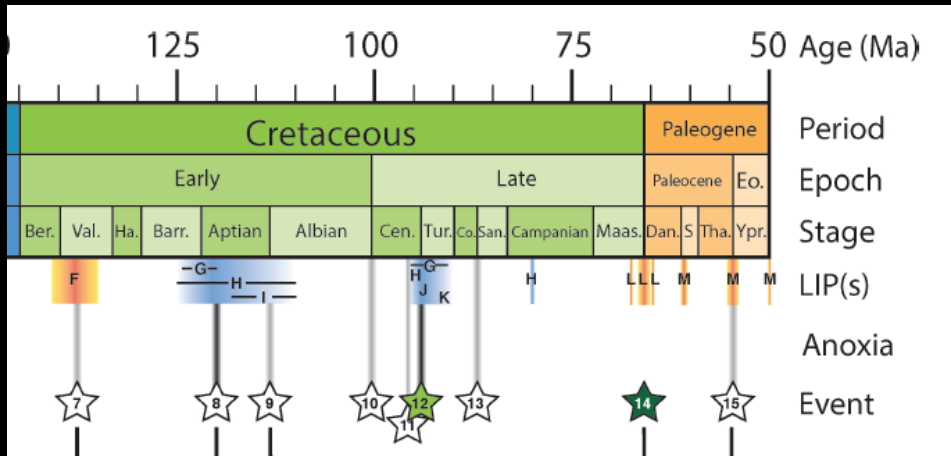


Image Recognition

red\_squirrel 0.60



Image  
Recognition



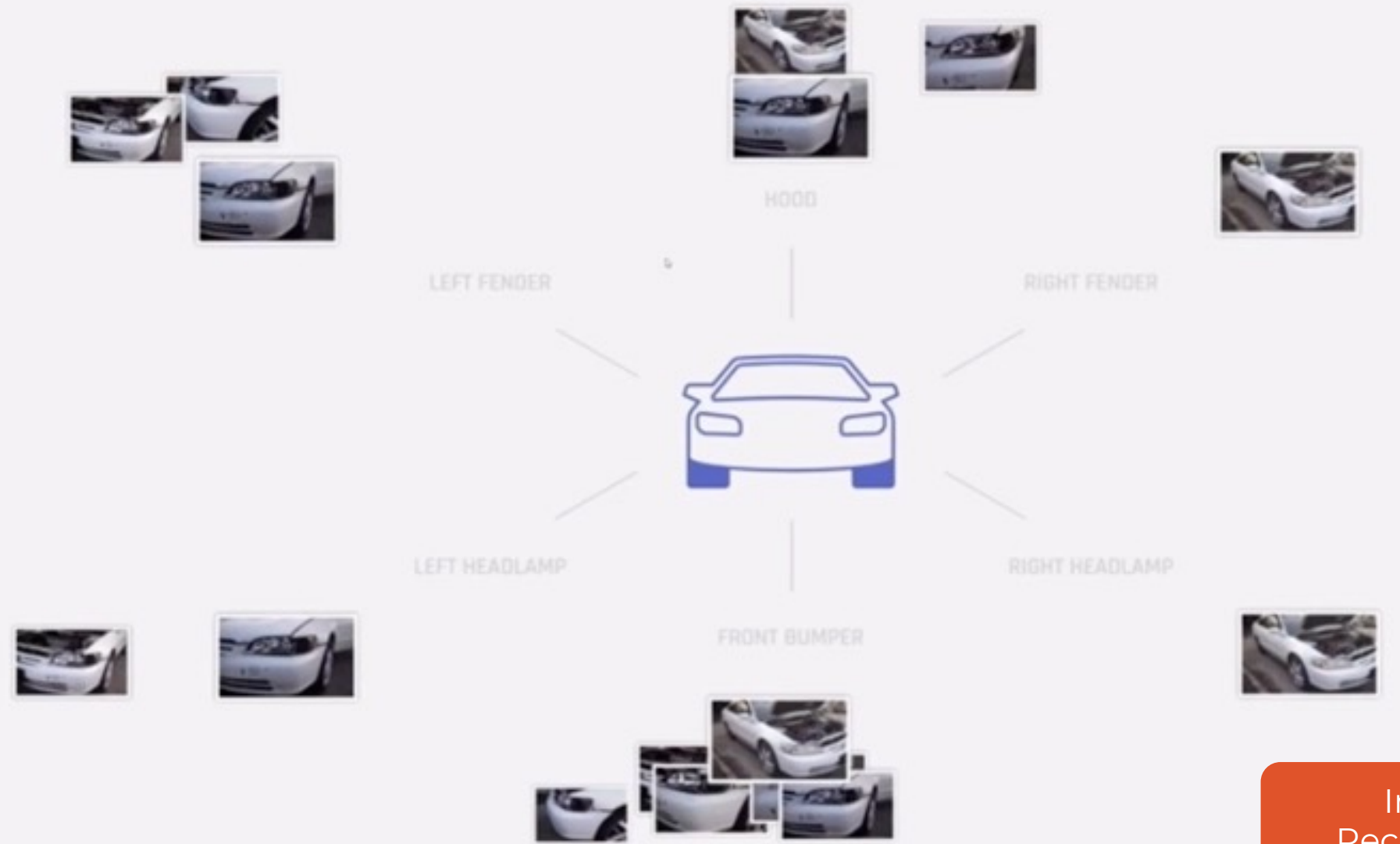


Image Recognition

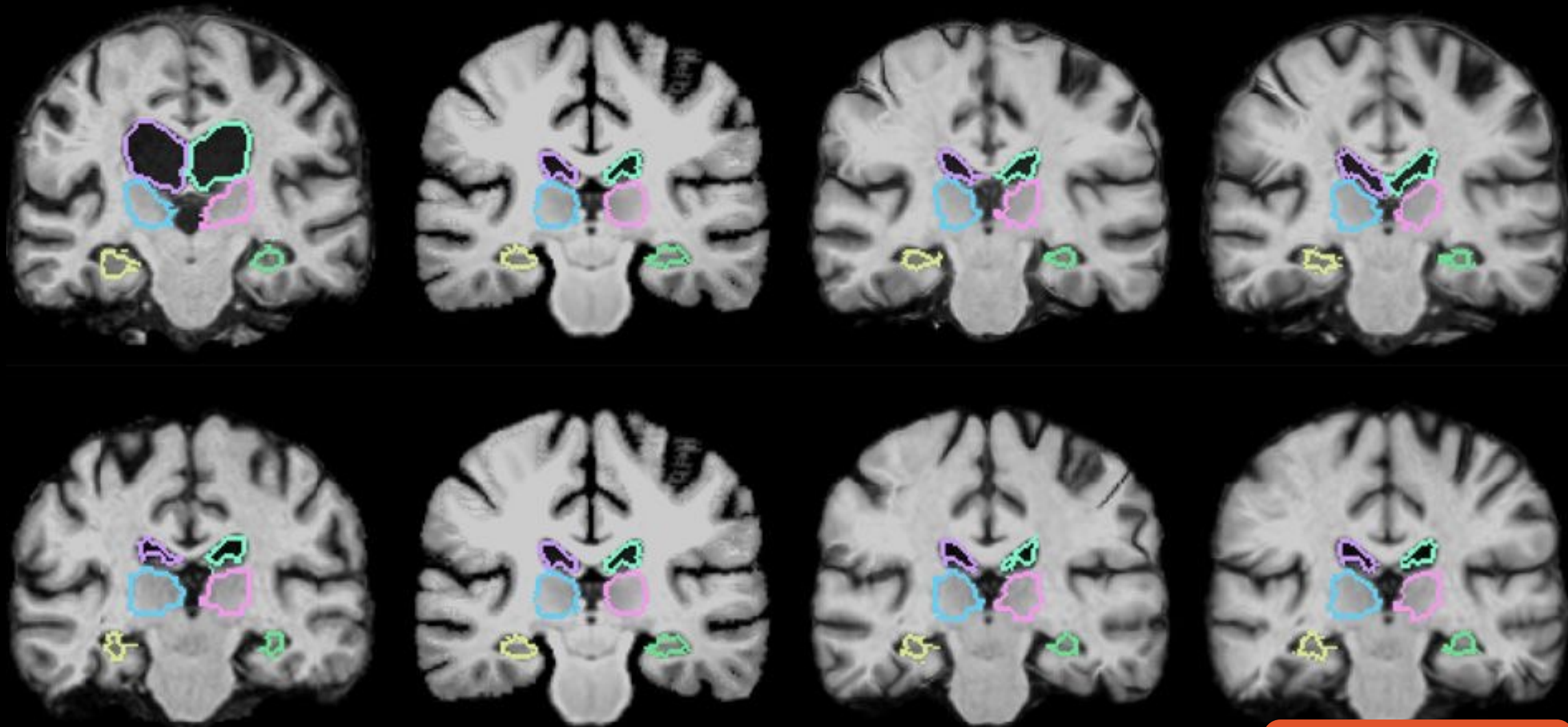


Image  
Recognition

Phone

Mail

What can I help you with?



Speech  
Recognition

Groups ▾ All Calls

Supervisor Report Agent Report Alpha Priority

<b>Cindy Sharrow</b>  Cust: Jerri Bonham Acct: 10858473882 ANI: 18669302749 DNIS: 18669302749 <b>Call Recording Miranda Fail...</b> Proper Greeting Churn Risk Escalation + 4 others 7m12	<b>Tawnie Carpenter</b>  Cust: Sondra Whinery Acct: 18987235401 ANI: 18669301089 DNIS: 18669301089 <b>Escalation</b> RPC Failure Mini-Miranda Failu... Call Recording Mir... + 1 others 6m56	<b>Finlay Lockwood</b>  Cust: Isabelle Lowry Acct: 18756932450 ANI: 18669304344 DNIS: 18669304344 <b>Call Recording Miranda Fail...</b> Escalation Legal Action RPC Failure 14	<b>Nanette Perry</b>  <b>Mini-Miranda Failure</b> 23m15	<b>Finlay Lockwood</b>  <b>Mini-Miranda Failure</b> 12m53		
<b>Jacquetta Appleton</b>  <b>Mini-Miranda Failure</b> 9m10	<b>Wilmer Roderick</b>  <b>Mini-Miranda Failure</b> 8m34	<b>Wilmer Roderick</b> <b>Mini-Miranda Fail...</b> 6m21	<b>Wilmer Roderick</b> <b>RPC Failure</b> 5m56	<b>Winnifred Young</b>  <b>Call Recording Miranda Failure</b> 4m31	<b>Tawnie Carpen...</b> <b>RPC Failure</b> 3m48	<b>Aric Downer</b> <b>Refund Request</b> 2m26
<b>Tamra Pound</b> <b>RPC Failure</b> 2m18 20	<b>Louie Bishop</b> <b>Mini-Miranda Co...</b> 4m0	<b>Gore Thomas</b> 2m1	<b>Jacquetta Appl...</b> <b>Mini-Miranda Co...</b> 1m49	<b>Jacqui Bardsley</b> <b>Mini-Miranda Co...</b> 1m42	<b>Gwendoline W...</b> 0m54	<b>Stacey</b> <b>Proper Greeting</b> 0m29 14

Speech Recognition



Speech  
Recognition



*“Hi, I'm calling to book a  
women's haircut for a client”*

Speech  
Recognition

# VOICE

# INVOICE

# INVOICE

Product/Service  
Office Furniture  
Computer

FOR YOUR BUSINESS

Date	Description	Reference	Debit USD	Credit USD
21/04	Transient Room Revenue	[NA Room]		120.00
	Room Tax- 6%	[Add: 6%.(B)]	7.20	
21/04	Occupancy Tax- 4%	[Add: 4%.(B)]	4.80	
21/04	Transient Room Revenue	[NA Room]		120.00
	Room Tax- 6%	[Add: 6%.(B)]	7.20	
	Occupancy Tax- 4%	[Add: 4%.(B)]	4.80	
22/04	Transient Room Revenue	[NA Room]		120.00
	Room Tax- 6%	[Add: 6%.(B)]	7.20	
	Occupancy Tax- 4%	[Add: 4%.(B)]	4.80	
				7.20

Natural Language Processing

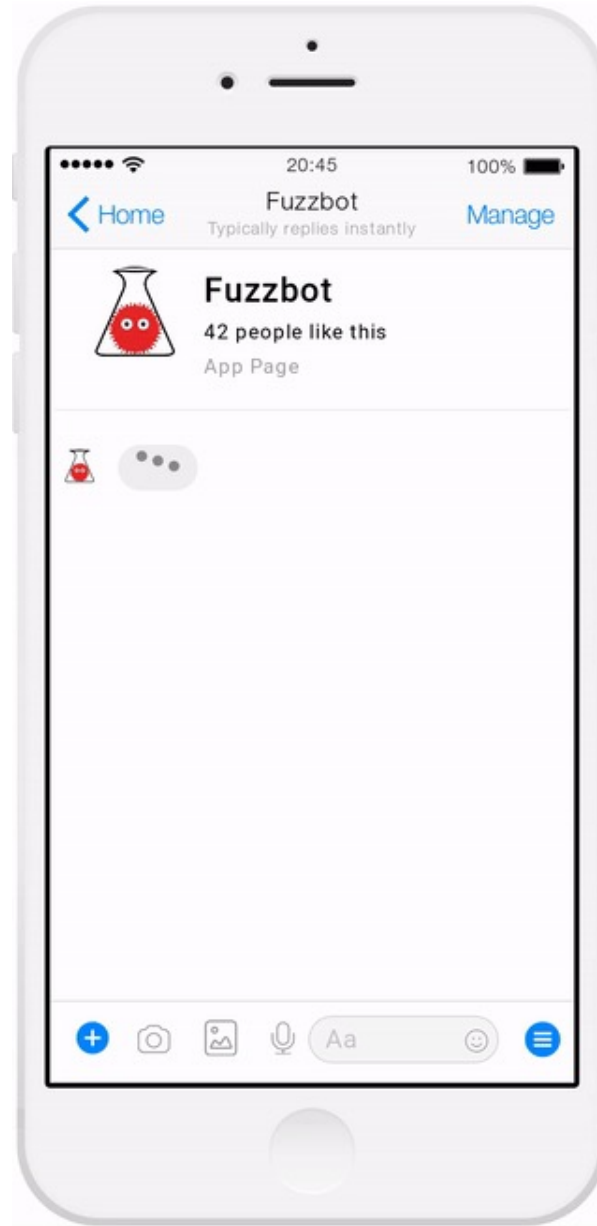
# CONTRACT



...is entered into by and between  
...shall begin on  
...in any manner unless in  
...hereby constitute  
...the Parties  
...of the St

Natural Language  
Processing





Natural Language  
Understanding

# What can I help you with?

I got a parking ticket

I'm sorry to hear that. Here's how I can help:

## Appeal a red light or speeding ticket

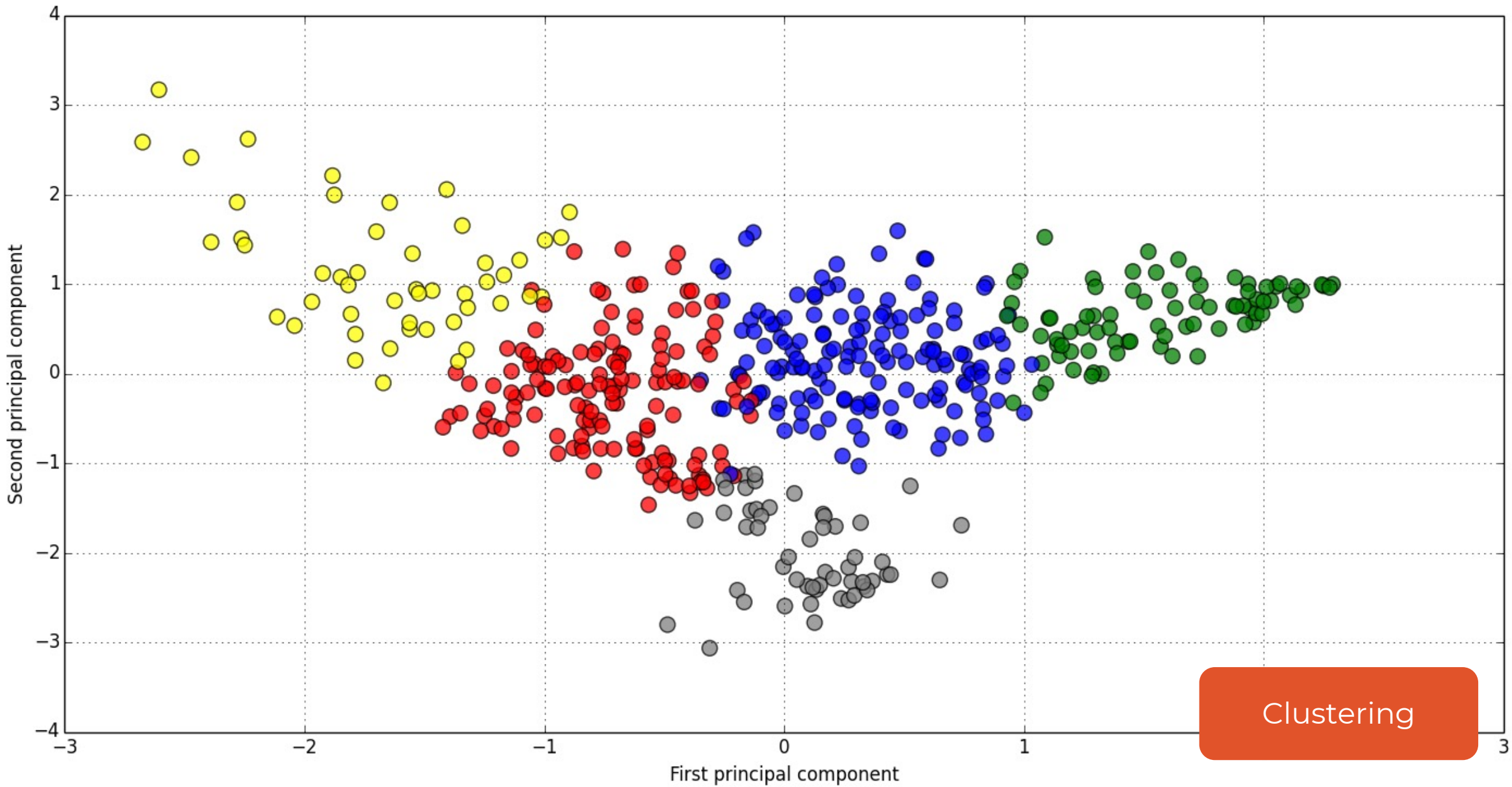
If you've been accused of running a red light or of speeding, use this bot to quickly generate an appeal form to get rid of the ticket!

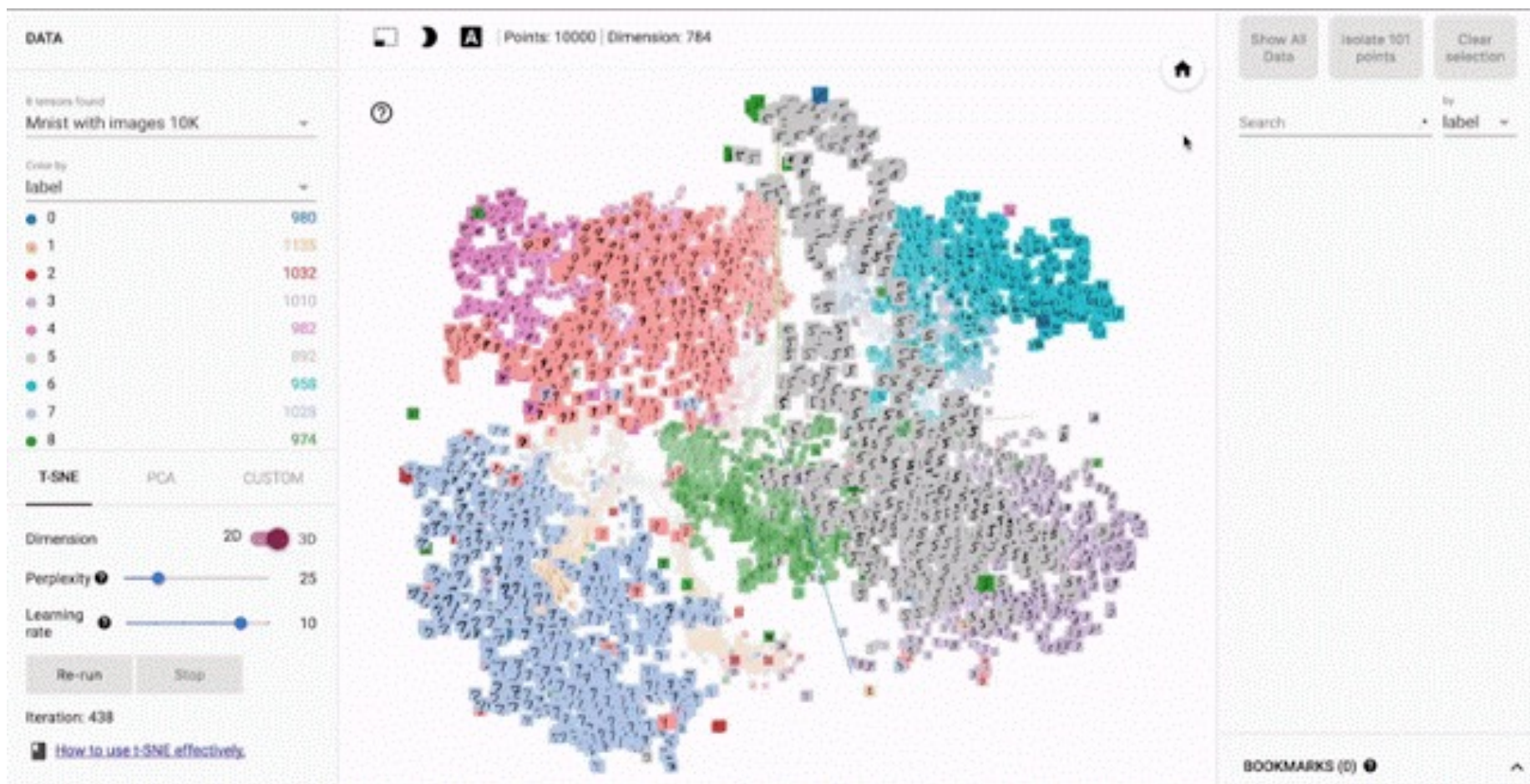
[Learn More >](#)

## Parking Ticket Appeals (Washington)

If you've

Natural Language Understanding





Clustering



Prediction

Woolley



Prediction

**I look ok  
but I'm  
stressed out  
about paying  
my rent**

Prediction



Shop All Departments



Search

All Departments



Your Amazon.com

Your Browsing History

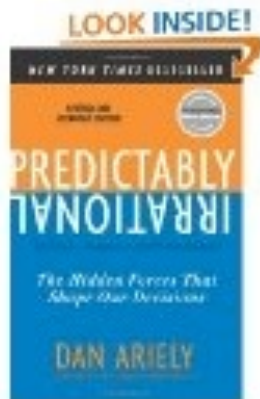
Recommended For You

Rate These Items

David, Welcome to Your Amazon.com (If you're not David E Erickson, [click here.](#))

## Today's Recommendations For You

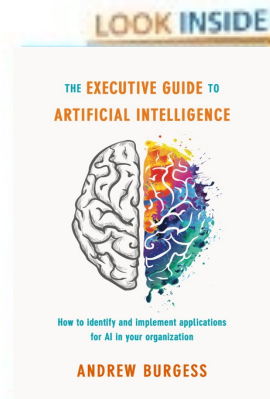
Here's a daily sample of items recommended for you. Click here to [see all recommendations.](#)



[Predictably Irrational, Revised Edition](#) (Paperback) by Dan Ariely

★★★★☆ (419) \$9.51

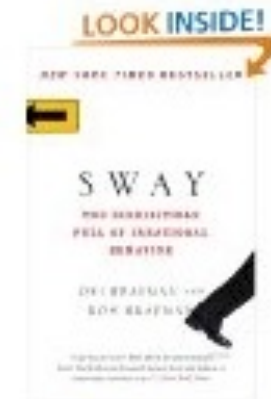
[Fix this recommendation](#)



[The Executive Guide to Artificial Intelligence](#) (Hardcover) by Andrew Burgess

★★★★☆ (178) \$16.22

[Fix this recommendation](#)



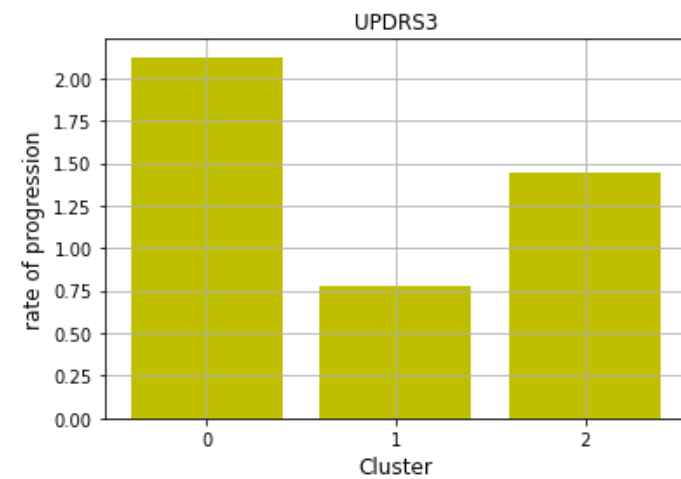
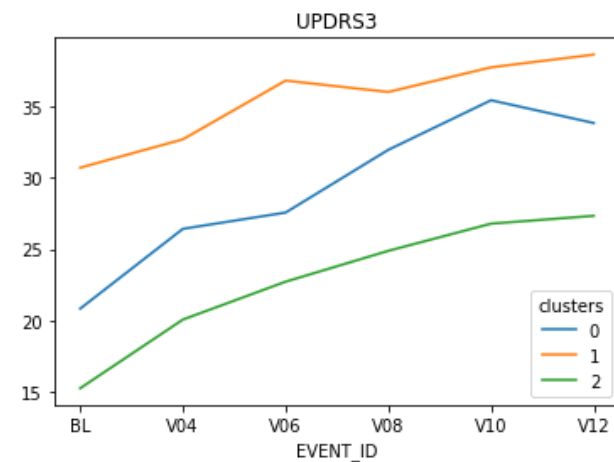
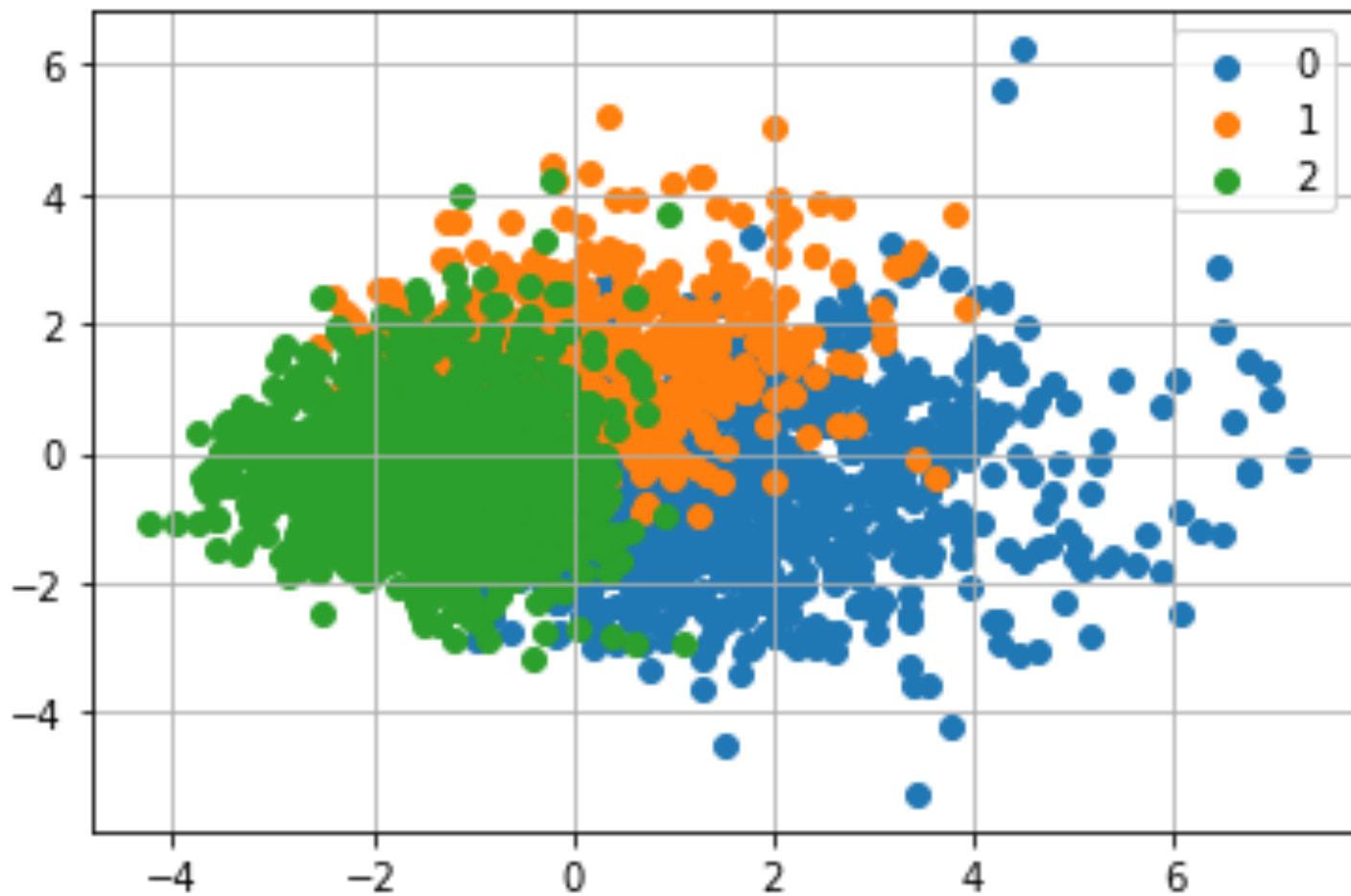
[Sway: The Irresistible Pull of Irrationality](#) (Paperback) by Ori Brafman

★★★★☆

[Fix this recommendation](#)

Clustering & Prediction





Clustering & Prediction



Clustering & Prediction



Problem Solving

ALPHAGO  
00:05:30



Google DeepMind  
Challenge Match



LEE SEDOL  
00:28:33

Problem Solving

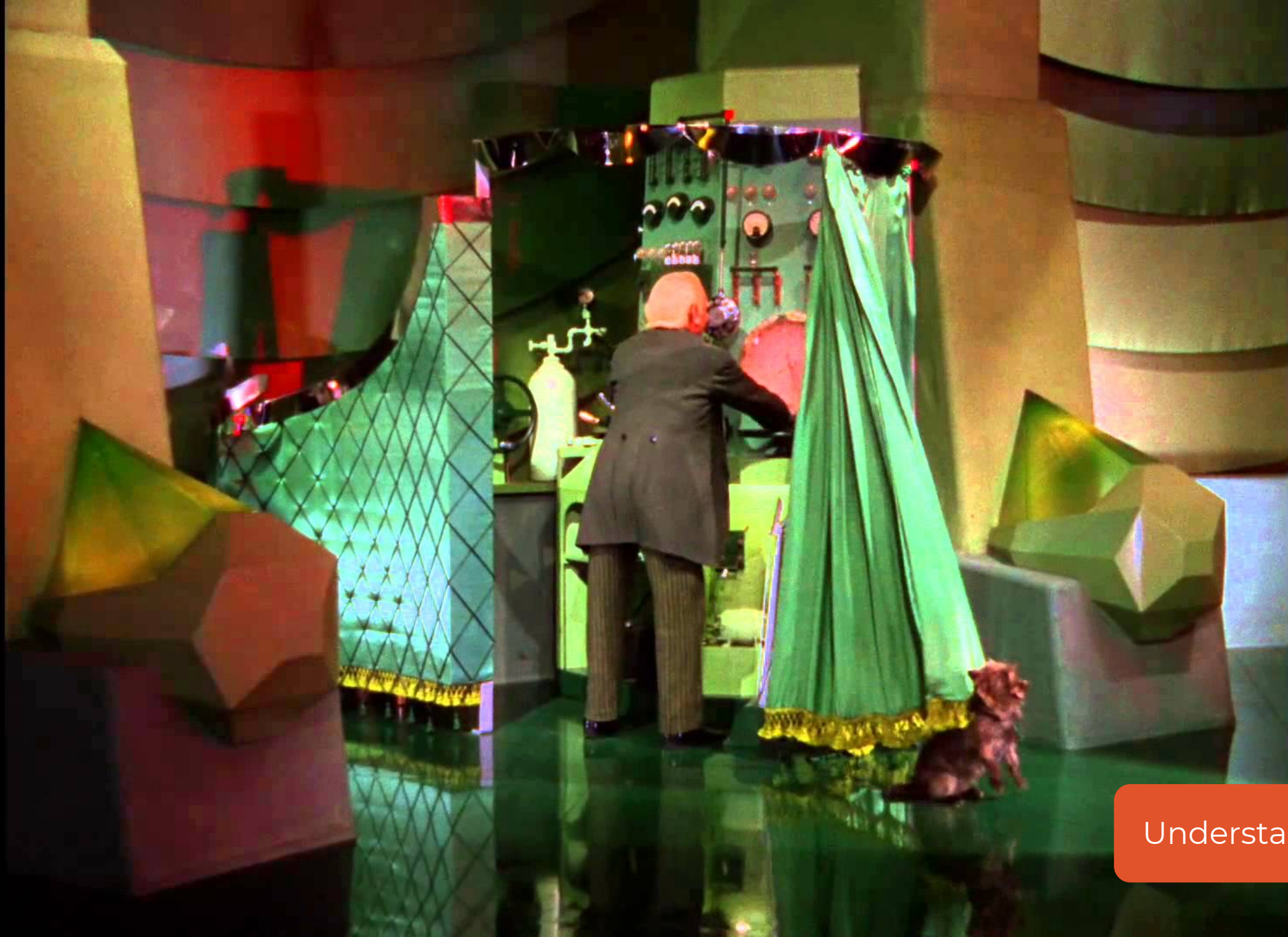


Google

Problem Solving



Problem Solving



Understanding





4

**How does  
Generative  
AI fit into  
all of this?**





# LLM Capabilities

With their inherent knowledge of language, LLMs have the ability to carry out a wide range of tasks, including:

- **Text generation** – creating new text content based on a prompt
- **Summarisation** – creating summaries of large or multiple documents or text feeds
- **Entity recognition** – extracting named entities, such as place names and dates, from passages of text
- **Insight generation** – extracting insights from large or multiple documents or text feeds
- **Q&A** – answering questions about general knowledge or on a specific corpus of information
- **Sentiment** – identifying the general sentiment of passages of text, text feeds or documents
- **Classification** – classifying text or documents into different categories or subjects
- **Similarity** – identifying how similar two text passages or documents are to each other
- **Translation** – translating a passage of text or document to a different language
- **Tone of voice** – rewriting a passage of text or document in a different style or for a different audience
- **Data analysis** – analysing and describing structured data such as a spreadsheet
- **Code generation** – writing or correcting computer code based on natural language prompts
- **Image interpretation** – analysing and answering questions on images

+ New chat

Model  
Default (GPT-3.5)

# ChatGPT PLUS

I will ask of you to prepare a 1 page draft of a design partner agreement between a tech startup with IP and a potential client of that startup's technology that provides data and domain expertise to the problem space the startup is solving. You will write down about a one A4 page length of a proposed design partner agreement that will cover all the important aspects of IP, confidentiality, commercial rights, data provided, usage of the data etc.

```
ADR1
Menlo Regular 14 a B I U 1.0
Clinical Trial Adverse Event Report
-----
Study Name: XYZ-123 Drug Trial for Condition ABC
Study Site: ABC Medical Center
Principal Investigator: Dr. Jane Doe
Patient ID: 001
Date of Report: 2023-03-18
Adverse Event Details
-----
Date of Adverse Event Onset: 2023-03-15
Date of Adverse Event Resolution: 2023-03-17 (if applicable)
Description of Adverse Event: Patient experienced moderate headache and dizziness
Severity of Adverse Event:
[ ] Mild
[X] Moderate
[ ] Severe
[ ] Life-threatening
Action Taken:
[ ] No action taken
[X] Dose adjusted
[ ] Drug temporarily discontinued
[ ] Drug permanently discontinued
[ ] Other (specify): _____
Outcome of Adverse Event:
[ ] Recovered without sequelae
[X] Recovered with sequelae
[ ] Ongoing
[ ] Unknown
Relationship to Study Drug:
[ ] Unrelated
[X] Possibly related
[ ] Probably related
[ ] Definitely related
[ ] Unknown
Additional Information (if any): Patient had a history of migraines, but the
intensity and timing of the headache were unusual for the patient.
Follow-up Actions:
-----
Date of Follow-up: 2023-03-20
Follow-up Results: Patient's headache and dizziness resolved after adjusting the
study drug's dosage.
Signature of Principal Investigator: Dr. Jane Doe
Date: 2023-03-18
-----
```

Question : What is the Study Name?

The Study Name is XYZ-123 Drug Trial for Condition ABC.

Question : What is the Adverse Event Date?

The Adverse Event Date of onset is March 15, 2023.

Question : How many days did the adverse event last?

Based on the report, the adverse event lasted for 2 days. The adverse event onset occurred on March 15, and the adverse event resolution occurred on March 17.

Question : What action was taken?

Answer : The dose of the study drug was adjusted in response to the moderate adverse event (headache and dizziness) experienced by the patient.

Question : Was the drug temporarily discontinued?

Answer : No, the drug was not temporarily discontinued. Dose was adjusted instead.

Question : What is the Outcome?

Answer : The action taken was to adjust the dose of the study drug. The outcome was that the patient recovered with sequelae, and their headache and dizziness resolved after adjusting the study drug's dosage.

```
ADR1
Menlo Regular 14 a B I U 1.0
Clinical Trial Adverse Event Report
-----
Study Name: XYZ-123 Drug Trial for Condition ABC
Study Site: ABC Medical Center
Principal Investigator: Dr. Jane Doe
Patient ID: 001
Date of Report: 2023-03-18
Adverse Event Details
-----
Date of Adverse Event Onset: 2023-03-15
Date of Adverse Event Resolution: 2023-03-17 (if applicable)
Description of Adverse Event: Patient experienced moderate headache and dizziness
Severity of Adverse Event:
[ ] Mild
[X] Moderate
[ ] Severe
[ ] Life-threatening
Action Taken:
[ ] No action taken
[X] Dose adjusted
[ ] Drug temporarily discontinued
[ ] Drug permanently discontinued
[ ] Other (specify): _____
Outcome of Adverse Event:
[ ] Recovered without sequelae
[X] Recovered with sequelae
[ ] Ongoing
[ ] Unknown
Relationship to Study Drug:
[ ] Unrelated
[X] Possibly related
[ ] Probably related
[ ] Definitely related
[ ] Unknown
Additional Information (if any): Patient had a history of migraines, but the
intensity and timing of the headache were unusual for the patient.
Follow-up Actions:
-----
Date of Follow-up: 2023-03-20
Follow-up Results: Patient's headache and dizziness resolved after adjusting the
study drug's dosage.
Signature of Principal Investigator: Dr. Jane Doe
Date: 2023-03-18
-----
```

Question : Summarise this document

This document reports an adverse event in a clinical trial for a drug called XYZ-123 which was being tested for a medical condition called ABC. The patient experienced moderate headache and dizziness. The intensity and timing of the headache were unusual for the patient, who had a history of migraines. The severity of the adverse event was moderate, and the study drug's dose was adjusted. The patient recovered with sequelae. It is possible that the adverse event was related to the study drug. After adjusting the dose of the study drug, the patient's headache and dizziness resolved. The report is signed by the principal investigator, Dr. Jane Doe.

## SCIENCE NEWS

# Organic molecules in Martian crater help to reconstruct planet's history

By James Ashworth  
First published 4 August 2023



NASA's Perseverance rover may have discovered organic molecules on the surface of Mars.

While they don't prove the existence of alien life, they add further evidence that Mars has a much more complex past than previously realised.

**Mars'** Jezero crater may have revealed its most intriguing finding yet, following the discovery of organic molecules in its rocks.

Analyses of rock samples collected by the **Perseverance rover** suggest the presence of aromatic molecules, a group of compounds which all contain a distinctive ring of carbon atoms. While it's **not the first time** organic compounds have been found on the surface of the red planet, it suggests a greater diversity of these molecules than was previously known.

**Dr Joby Razzell Hollis**, a Natural History Museum researcher who co-authored the new paper, says, 'We weren't sure what to expect, but we've been surprised by the sheer variety

## Read more

- Read the paper in full **published in Nature**.
- Find out what else **Keyron is working on**.
- Catch up on **Joby's research**.



## Explore space

Discover more about the natural world beyond Earth's stratosphere.

[Blast off >](#)



What is this article about?

The article is about the discovery of organic molecules in Mars' Jezero crater, which suggests a more complex past for the planet. However, it does not prove the existence of alien life. The presence of aromatic molecules in rock samples collected by the Perseverance rover indicates a greater diversity of these compounds than previously known.

How does the rover test for organic molecules?

The rover tests for organic molecules using the SHERLOC instrument, which shines a laser of ultraviolet light at rocks and analyzes the absorption and emission of light to determine the chemical composition of the compounds in the rock.

Who are the authors of the paper that this article is about?

The author of the paper is Dr Joby Razzell Hollis.

What is their role?

Dr Joby Razzell Hollis is a Natural History Museum researcher.

Can you rewrite this so that a 12 year old would understand it?

NASA's Perseverance rover found some special molecules on Mars that tell us the planet has a more interesting past than we thought. These molecules are like the building blocks of life on Earth, but we're not sure where they came from on Mars. Scientists will bring back samples from Mars to study them more and learn more about Mars and if it could have life. But just finding these molecules doesn't mean there are aliens on Mars.

Why is the sky blue?

I don't know why the sky is blue.

## Ukraine uncertainty roils grain markets in volatile trading

CBOT's crop price index gained two points this week to 253, led by increases for wheat and corn. Uncertainty over future grain exports from Ukraine's Black Sea ports still dominates the agricultural commodity landscape and prices are volatile, leaping or sliding from one level to the next.

Wheat, soy and soybeans advanced early in the trading week as bullish amplified its rhetoric over the Grain Initiative. By 20 April from month wheat futures in Chicago had climbed to their lowest in more than a month. Corn and soybeans dipped in the second half of the week, but both are still up strongly over the last month.

CBOT crop price index advances even as prices slide at world's end



Russia refused importers of Ukrainian grain shipments in Turkey at the end of last week and the beginning of this week. The Kremlin is demanding a lower price of Russian ammonia pipeline flows across Ukraine to ~~justify~~ lifting of restrictions on insurance along with the ban on access to ports and a restoration of ~~the~~ the faith financial messaging system.

Compensating Ukraine's losses, the five-year (EU) states are blocking the country's grain imports to protect their domestic farmers, although they will resume the trade of Ukrainian grain.

Ukraine's grain exports fell 13% year on year as of 12 April to 38.2 Mt versus 43.3 Mt last year.

A revised outlook for Russia's wheat harvest added to the downward pressure. ~~It~~ revised its forecast to 83.8 Mt from 85.3 in early March.

Russia may export 37.5-41 Mt of wheat this season, which will be comparable with record shipments this season, according to analysts.

Russia exports a 2022 grain harvest of around 110 Mt, including from occupied territories of Ukraine, Agriculture Minister Dmitry Patrashov said in a videoconference with President Vladimir Putin, Bloomberg reported.

Australia is poised for a strong start to its wheat season too, according to Sydney-based broker and adviser ICOW Commodities. Rain over the last month has set up the season to be one of the best starts in a long time. ICOW's Chief Executive Ole ~~Harungold~~ Bloomberg ~~has~~ forecast the 2021/22 crop at 33.86 Mt, up from government guidance of 28.1 Mt in early March.

~~It~~ revised Brazil's 2022 soybean export estimate to 90.3 Mt on higher demand from China and other Asian importers. The soybean crop estimate was increased to 213.6 Mt from 151.4 Mt. The country's corn crop forecast was raised from to 228.8 Mt from 116.7 Mt.

In Argentina, the Rosario Board of Trade cut its soy forecast another 11% to 23 Mt and sliced another 9% off its corn forecast to 32 Mt. Drought has crippled the country's production causing the worst harvest there for around 20 years.

Rice production for 2021 is set to lag its largest shortfall in two decades, according to Fitch Solutions.

"On the global level, the most evident impact of the global rice deficit has been, and will be, decade-high rice prices," Fitch Solutions' Commodities Analyst Charles Kim told CNBC.

The transition from La Niña weather phenomenon that brought drought to Argentina, to El Niño, is underway and may have a negative impact on crop production in the southern hemisphere. El Niño may now arrive in early June, around two months earlier than previous predictions, according to US weather agency, National Oceanic & Atmospheric Administration (NOAA).

China's year-to-date soybean imports rose 15.0% year on year to 26.016 Mt, with corn imports up 6% to 7.12 Mt with wheat imports up 54% at 1.33 Mt.

In the US, crop planting is at 8%, double this time last year and above the five-year average.

Soybeans are 9% advanced, well exceeding the five-year average, spring wheat is at 9%, below last year and the five-year average. Winter wheat condition is 17% superb, 30% fair, 50% good/excellent, according to the USDA.

US soybean sales fell to 306,800 t in the week ending 15 April compared with 331,000 t the previous week. All wheat export sales rose to 381,000 t versus 306,800 t the previous week. Corn sales rose to 734,000 t from 528,000 t.

Markets have been overestimating how quickly the US Federal Reserve will cut interest rates this year, the Financial Times reported, citing comments by the head of Blackstone, the world's largest alternative asset manager. Higher rates are likely to present headwinds for commodity prices in general.



```
In [ ]: from langchain import OpenAI, PromptTemplate, LLMChain
        from langchain.text_splitter import CharacterTextSplitter
        from langchain.chains.mapreduce import MapReduceChain
        from langchain.prompts import PromptTemplate

        llm = OpenAI(temperature=0, model = 'gpt-3.5-turbo')

        text_splitter = CharacterTextSplitter()
```

```
In [14]: with open("Grain.txt") as f:
          my_doc = f.read()
          texts = text_splitter.split_text(my_doc)
```

---

```
Out[17]: " Grain prices rose this week due to uncertainty over future grain exports from Ukraine's Black Sea ports. Wheat futures drop
ped to their lowest in a month, but corn and soybeans are still up significantly. Russia is demanding a resumption of Russian
ammonia pipeline flows across Ukraine, and five EU states are blocking Ukrainian grain imports. Australia is poised for a str
ong start to its wheat season, and Brazil and Argentina have seen their soy and corn crop forecasts revised due to weather co
nditions. Rice production is set to log its largest shortfall in two decades, and China's year-to-date soybean, corn, and whe
at imports have all increased. US crop planting is ahead of the five-year average, but soybean sales have fallen and higher i
nterest rates may present headwinds for commodity prices."
```

Microsoft Azure Storage Explorer

EXPLORER

Search for resources

Collapse all Refresh all

Upload Download Open Preview New Folder Select All Copy Paste Clone Delete Undo Manage History Folder Statistics Refresh

Active blobs (default) azureml > Data

Name	Access Tier	Access Tier Last Modified	Last Modified	Blob Type	Content Type	Size
Stanford					Folder	
TechEmergence					Folder	
TechRepublic					Folder	
techUK					Folder	
TED					Folder	
UKRI					Folder	
UKSA					Folder	
UNESCO					Folder	
Washington Post					Folder	
WEF					Folder	
WHO					Folder	
01661328_MSc Thesis_ AI Capabilities NHS Managers _ v1.0 110821.pdf	Hot (inferred)		27/06/2023, 16:16	Block Blob	application/pdf	86...
14 Incredible Artificial Intelligence Pioneers Everyone Should Know About.pdf	Hot (inferred)		27/06/2023, 16:16	Block Blob	application/pdf	
1709.03776.pdf	Hot (inferred)		27/06/2023, 16:42	Block Blob	application/pdf	27...
1808.07261.pdf	Hot (inferred)		27/06/2023, 16:42	Block Blob	application/pdf	30...
1901.08558.pdf	Hot (inferred)		27/06/2023, 16:42	Block Blob	application/pdf	30...
1904.05270.pdf	Hot (inferred)		27/06/2023, 16:16	Block Blob	application/pdf	68...
2011.09926.pdf	Hot (inferred)		27/06/2023, 16:16	Block Blob	application/pdf	25...
2211.00241.pdf	Hot (inferred)		27/06/2023, 16:16	Block Blob	application/pdf	3...
2301.13188.pdf	Hot (inferred)		27/06/2023, 16:16	Block Blob	application/pdf	8...
2305.08005.pdf	Hot (inferred)		27/06/2023, 16:42	Block Blob	application/pdf	21...
4 ways Google Cloud will bring AI, machine learning to the enterprise   Network World.pdf	Hot (inferred)		27/06/2023, 16:16	Block Blob	application/pdf	13...
M&P&S... from... guide.pdf	Hot (inferred)		27/06/2023, 16:16	Block Blob	application/pdf	21...

Showing 1 to 100 of 169 cached items

Actions Properties Activities

URL: https://greenhou... Clear completed Clear successful

Custom Domain:

Type: Blob Container

HNS Enabled: false

Lease State: available

Lease Status: unlocked

Public Read Access: off

Last Modified: 1 November 2023

- All workspaces
- Home
- Model catalog PREVIEW
- Authoring
  - Notebooks
  - Automated ML
  - Designer
  - Prompt flow**
- Assets
  - Data
  - Jobs
  - Components
  - Pipelines
  - Environments
  - Models
  - Endpoints
- Manage
  - Compute
  - Monitoring PREVIEW
  - Data Labeling
  - Linked Services

Greenhouse Intelligence Ltd > greenhouse > Flows > All\_About\_AI\_Chatbot

All\_About\_AI\_Chatbot Chat Completed View batch runs View outputs Runtime \* compute-runtime-1 Deploy Clone Save Evaluate Chat

Flow

+ LLM + Prompt + Python + More tools Save Raw file mode Wrap text Diff mode

**Inputs**

Name	Type	Value	Chat input
chat_history	list		<a href="#">Chat history</a>
chat_input	string	what are the biggest risks?	<input checked="" type="radio"/>

+ Add input

**Outputs**

Name	Value	Chat output
chat_output	\${chat_with_context.output}	<input checked="" type="radio"/>

+ Add output

**modify\_query\_with\_history** llm Show variants Generate variants

Connection: greenhouse\_openai | Api: chat

deployment\_name: gpt-4 | temperature: 0 | stop: | max\_tokens: 1000

> Advanced

> Function calling

> Prompt Referring to: modify\_query\_with\_history.jinja2

```

1 system:
2 * Given the following conversation history and the users next question, rephrase the question to be a stand alone question.
3 If the conversation is irrelevant or empty, just restate the original question.
4 Do not add more details than necessary to the question.
5

```

**Chat**

automating data entry, improving the accuracy of financial forecasts, detecting anomalies or fraudulent activities, and enhancing compliance monitoring by analyzing large volumes of transactions to identify patterns that may indicate risks or errors.

how can AI detect fraudulent activities?

AI can detect fraudulent activities by using machine learning algorithms to identify exceptions and separate unobserved fraud patterns. These algorithms analyze the preceding cases of falsified actions and, with new data, can achieve much more accurate fraud detections. (Source: F11180486S419.pdf)

what are the biggest risks?

The biggest risks associated with the deployment of AI systems include failure to perform, vulnerability to misuse, privacy concerns, discrimination due to biased data, malicious re-purposing, and social disruption. (Source: ai-white-paper-superhuman-resources.pdf)

Input anything to test...

Chat ⓘ

what are the use cases for AI in accountancy?

AI leaders predict that by 2020, AI will have its biggest internal impact on back-office functions, including finance and accounting, where there are many computer-to-computer interactions (Source: How Companies Are Already Using AI.pdf). AI can be used in accountancy for tasks such as automating data entry, improving the accuracy of financial forecasts, detecting anomalies or fraudulent activities, and enhancing compliance monitoring by analyzing large volumes of transactions to identify patterns that may indicate risks or errors.

how can AI detect fraudulent activities?

AI can detect fraudulent activities by using machine learning algorithms to identify exceptions and separate unobserved fraud patterns. These algorithms analyze the preceding cases of falsified actions and, with new data, can achieve much more accurate fraud detections. (Source: F11180486S419.pdf)

Chat ⓘ

more accurate fraud detections. (Source: F11180486S419.pdf)

what are the biggest risks?

The biggest risks associated with the deployment of AI systems include failure to perform, vulnerability to misuse, privacy concerns, discrimination due to biased data, malicious re-purposing, and social disruption. (Source: ai-white-paper-superhuman-resources.pdf)

how can ai be used in the leagl sector?

AI can be used in the legal sector to automate routine tasks such as document review, due diligence, and legal research. It can also assist in predicting legal outcomes, drafting legal documents, and managing case-related data. AI technologies like natural language processing can analyze vast amounts of legal texts to extract insights and patterns that can aid in legal decision-making. (Source: Artificial intelligence disrupting the business of law.pdf)

Total tokens for generating this: **1986** tokens, time spent: **67.12** sec

Input anything to test...

Model: Code Interpreter

+ New chat

AN create a qr code for thegreenhouse.ai and show it to me

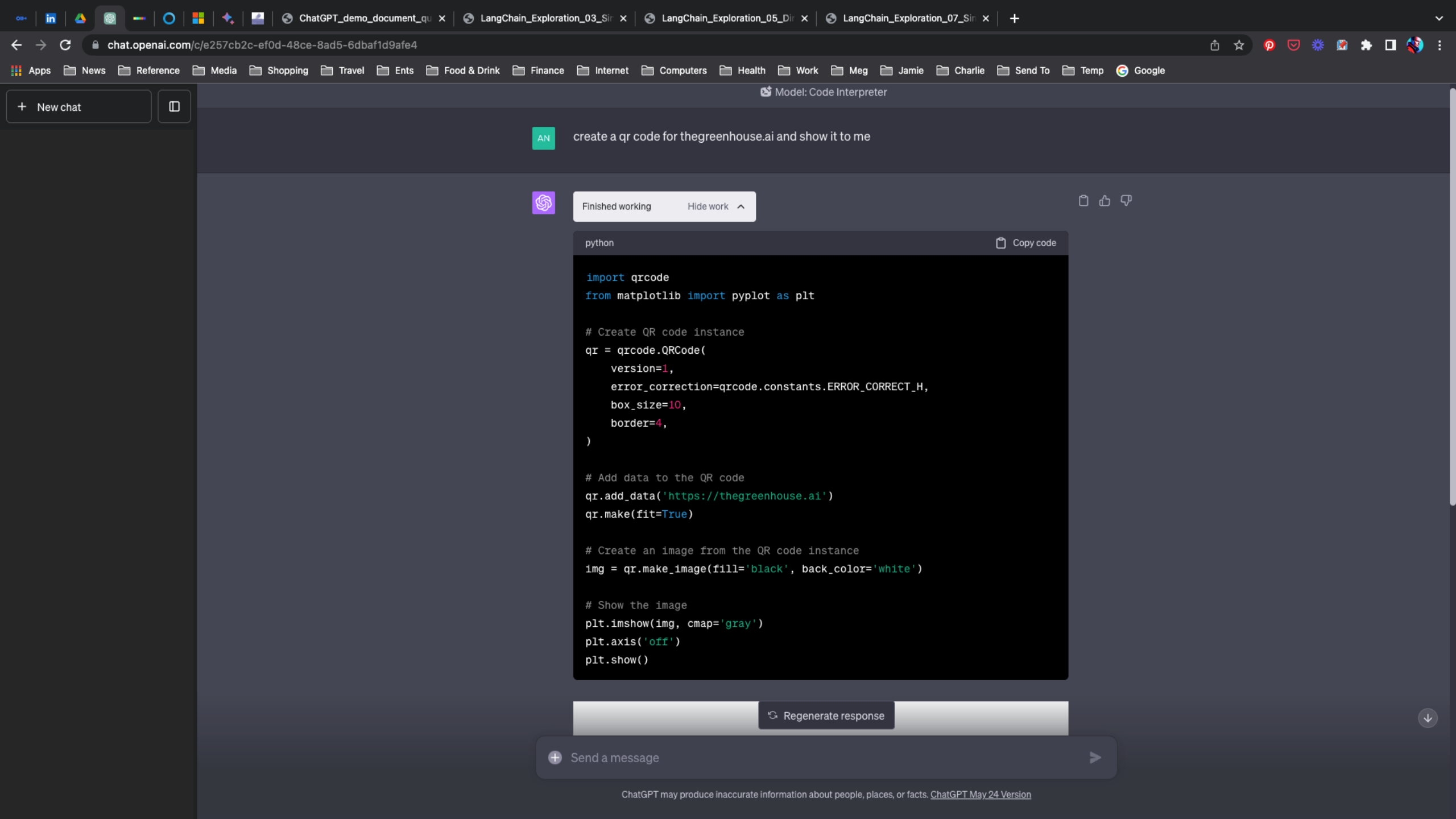


Finished working Show work



Regenerate response

+ Send a message



+ New chat

Model: Code Interpreter

AN create a qr code for thegreenhouse.ai and show it to me



Finished working Hide work ^



```
python
import qrcode
from matplotlib import pyplot as plt

# Create QR code instance
qr = qrcode.QRCode(
    version=1,
    error_correction=qrcode.constants.ERROR_CORRECT_H,
    box_size=10,
    border=4,
)

# Add data to the QR code
qr.add_data('https://thegreenhouse.ai')
qr.make(fit=True)

# Create an image from the QR code instance
img = qr.make_image(fill='black', back_color='white')

# Show the image
plt.imshow(img, cmap='gray')
plt.axis('off')
plt.show()
```

Regenerate response

+ Send a message

	A	B	C	D	E	F	G	H
1	Commodity Group	Price Detail	Price Type	MARKET	Unit of Measurement	Unit	Date	Value
93	Steel - Carbon	Billet, Spot price	Point	Asia, CFR	Local Currency and Weight Units	USD/t	2022W42	1048
94	Steel - Carbon	Billet, Spot price	Point	Asia, CFR	Local Currency and Weight Units	USD/t	2022W43	1026
95	Steel - Carbon	Billet, Spot price	Point	Asia, CFR	Local Currency and Weight Units	USD/t	2022W44	1016
96	Steel - Carbon	Billet, Spot price	Point	Asia, CFR	Local Currency and Weight Units	USD/t	2022W45	1000
97	Steel - Carbon	Billet, Spot price	Point	Asia, CFR	Local Currency and Weight Units	USD/t	2022W46	1016
98	Steel - Carbon	Billet, Spot price	Point	Asia, CFR	Local Currency and Weight Units	USD/t	2022W47	1010
99	Steel - Carbon	Billet, Spot price	Point	Asia, CFR	Local Currency and Weight Units	USD/t	2022W48	1010
100	Steel - Carbon	Billet, Spot price	Point	Asia, CFR	Local Currency and Weight Units	USD/t	2022W49	1050
101	Steel - Carbon	Billet, Spot price	Point	Asia, CFR	Local Currency and Weight Units	USD/t	2022W50	1096
102	Steel - Carbon	Billet, Spot price	Point	Asia, CFR	Local Currency and Weight Units	USD/t	2022W51	1104
103	Steel - Carbon	Billet, Spot price	Point	Asia, CFR	Local Currency and Weight Units	USD/t	2022W52	1110
104	Steel - Carbon	Billet, Spot price	Point	Asia, CFR	Local Currency and Weight Units	USD/t	2023W1	1124
105	Steel - Carbon	Billet, Spot price	Point	Asia, CFR	Local Currency and Weight Units	USD/t	2023W2	1154
106	Steel - Carbon	Billet, Spot price	Point	Asia, CFR	Local Currency and Weight Units	USD/t	2023W3	1202
107	Steel - Carbon	Billet, Spot price	Point	China, Tangs	Local Currency and Weight Units	RMB/t	2021W3	7620
108	Steel - Carbon	Billet, Spot price	Point	China, Tangs	Local Currency and Weight Units	RMB/t	2021W4	7720
109	Steel - Carbon	Billet, Spot price	Point	China, Tangs	Local Currency and Weight Units	RMB/t	2021W5	7700
110	Steel - Carbon	Billet, Spot price	Point	China, Tangs	Local Currency and Weight Units	RMB/t	2021W6	7700
111	Steel - Carbon	Billet, Spot price	Point	China, Tangs	Local Currency and Weight Units	RMB/t	2021W7	7700
112	Steel - Carbon	Billet, Spot price	Point	China, Tangs	Local Currency and Weight Units	RMB/t	2021W8	8460
113	Steel - Carbon	Billet, Spot price	Point	China, Tangs	Local Currency and Weight Units	RMB/t	2021W9	8820
114	Steel - Carbon	Billet, Spot price	Point	China, Tangs	Local Currency and Weight Units	RMB/t	2021W10	8680
115	Steel - Carbon	Billet, Spot price	Point	China, Tangs	Local Currency and Weight Units	RMB/t	2021W11	8900
116	Steel - Carbon	Billet, Spot price	Point	China, Tangs	Local Currency and Weight Units	RMB/t	2021W12	9200
117	Steel - Carbon	Billet, Spot price	Point	China, Tangs	Local Currency and Weight Units	RMB/t	2021W13	9600
118	Steel - Carbon	Billet, Spot price	Point	China, Tangs	Local Currency and Weight Units	RMB/t	2021W14	10080
119	Steel - Carbon	Billet, Spot price	Point	China, Tangs	Local Currency and Weight Units	RMB/t	2021W15	9920
120	Steel - Carbon	Billet, Spot price	Point	China, Tangs	Local Currency and Weight Units	RMB/t	2021W16	9880
121	Steel - Carbon	Billet, Spot price	Point	China, Tangs	Local Currency and Weight Units	RMB/t	2021W17	9960
122	Steel - Carbon	Billet, Spot price	Point	China, Tangs	Local Currency and Weight Units	RMB/t	2021W18	9960
123	Steel - Carbon	Billet, Spot price	Point	China, Tangs	Local Currency and Weight Units	RMB/t	2021W19	11440
124	Steel - Carbon	Billet, Spot price	Point	China, Tangs	Local Currency and Weight Units	RMB/t	2021W20	10940
125	Steel - Carbon	Billet, Spot price	Point	China, Tangs	Local Currency and Weight Units	RMB/t	2021W21	9880
126	Steel - Carbon	Billet, Spot price	Point	China, Tangs	Local Currency and Weight Units	RMB/t	2021W22	10000
127	Steel - Carbon	Billet, Spot price	Point	China, Tangs	Local Currency and Weight Units	RMB/t	2021W23	9920
128	Steel - Carbon	Billet, Spot price	Point	China, Tangs	Local Currency and Weight Units	RMB/t	2021W24	10000

ObservationData



AN

Describe this data



ObservationData.csv



Finished working

Show work


The data contains several columns related to commodity prices, specifically for the "Steel - Carbon" commodity group. Here are the columns and a brief description of each:

1. **Commodity Group:** The group of the commodity. In this case, it's 'Steel - Carbon' for all the displayed entries.
2. **Price Detail:** This seems to provide more details about the specific commodity price being recorded. The displayed entries all say 'Billet, Spot price'.
3. **Price Type:** This might describe the nature of the price being recorded. For the entries shown, it's 'Point'.
4. **MARKET:** This appears to describe the market in which the price is being recorded. The displayed entries are all 'Asia, CFR'.
5. **Unit of Measurement:** This is the unit in which the commodity is measured. All the displayed entries are 'Local Currency and Weight Units'.
6. **Unit:** The specific unit in which the value is reported. In this case, it's 'USD/t', which likely stands for US Dollars per tonne.
7. **Date:** The date on which the price is recorded. It's formatted as year followed by the week number (for example, '2021W3' represents the third week of 2021).
8. **Value:** The price of the commodity in the given unit. These values seem to be integers.



Let's also get some additional details about the data such as the number of unique entries in each column, the range of dates, and the range of values.

Finished working


Show work 

The data contains 5,925 rows. Here are some more details:

1. **Commodity Group:** There is only 1 unique commodity group in the data, which is 'Steel - Carbon'.
2. **Price Detail:** There are 16 unique price details in the data.
3. **Price Type:** There is only 1 unique price type in the data, which is 'Point'.
4. **MARKET:** There are 16 unique markets in the data.
5. **Unit of Measurement:** There is only 1 unique unit of measurement in the data, which is 'Local Currency and Weight Units'.
6. **Unit:** There are 5 unique units in the data.
7. **Date:** The data covers a range from the 10th week of 2021 to the 3rd week of 2023.
8. **Value:** The recorded values range from 50 to 224,600.


Let's further explore the unique values for the 'Price Detail', 'MARKET', and 'Unit' columns to better understand the variety of data present.

Finished working

Show work 

Here are the unique values present in the 'Price Detail', 'MARKET', and 'Unit' columns:

1. **Price Detail:** There are 16 unique price details, including 'Billet, Spot price', 'Cold-rolled Coil, Spot price', 'Hot-dipped Galvanised Coil, Premium to HRC, Spot spread', and others.
2. **MARKET:** There are 16 unique markets, including 'Asia, CFR', 'China, Tangshan, ex-mill', 'Asia, non-CIS origin, CFR', 'China, FOB', and others.
3. **Unit:** There are 5 unique units, including 'USD/t' (US Dollars per tonne), 'RMB/t' (Renminbi per tonne), 'EUR/t' (Euros per tonne), 'INR/t' (Indian Rupees per tonne), and 'USD/st' (US Dollars per short ton).

 Regenerate response



Finished working

Show work ▾



Here's a line plot comparing the prices of 'Wire Rod' steel in different markets over time.

Please note that this graph includes multiple currencies, so the prices aren't directly comparable across different markets. Also, due to a large number of markets, the plot might appear cluttered. If you're interested in comparing specific markets or if you want the prices converted to a single currency for comparison, let me know!

AN

Filter this graph so it only shows those prices that are in USD/t



Finished working

Show work ▾



Here's the updated line plot comparing the prices of 'Wire Rod' steel in different markets over time, filtered to only include prices reported in 'USD/t'. This makes the prices directly comparable across different markets.

Remember, due to a large number of markets, the plot might appear a bit cluttered. If you are interested in comparing specific markets, let me know!

AN

show this graph as the difference between the two lines



To calculate the difference between the two lines (i.e., markets), we first need to identify which two markets you're interested in. The plot includes several markets, so please specify the two markets you want to compare.

AN

china and turkey



Finished working Show work ▼



Regenerate response

AN

can you convert all of the prices to USD/t?



To convert all prices to 'USD/t', we would need exchange rates for each currency to USD for each date in the dataset. Unfortunately, the current environment does not have access to the internet to fetch live exchange rates.

However, if you have a file containing the historical exchange rates, you could upload it, and I could use that data to convert all the prices to 'USD/t'.

Another thing to consider is that the conversion would assume that all prices are in 'per tonne' units. If there are prices that are not per tonne, the conversion would not be accurate. As of my training cut-off in September 2021, direct conversion of different units (e.g., converting prices per pound to prices per tonne) may require additional contextual or domain-specific knowledge.

Please let me know how you would like to proceed.

	A	B	C
1	Currency	Rate	
2	USD	1	per USD
3	RMB	7.19	per USD
4	EUR	0.91	per USD
5	INR	82.3	per USD
6			

AN

This file contains the exchange rates to calculate the conversions



Exchange Rate Demo.csv



Finished working

Show work ▼

The exchange rates data contains the following columns:

1. **Currency:** This column represents the type of currency.
2. **Rate:** This column represents the conversion rate from the specified currency to USD.
3. **Unnamed: 2:** This column seems to describe the conversion rate. All displayed entries are 'per USD', indicating that the rate given is the amount of the specified currency equivalent to 1 USD.

Please note that these rates appear to be fixed and don't account for changes in exchange rates over time. This approach can lead to inaccuracies if exchange rates fluctuated significantly during the period covered by the steel prices data.

Let's use these exchange rates to convert all the steel prices to 'USD/t'.

Finished working

Show work ▼

I've converted all the steel prices to 'USD/t' using the provided exchange rates. Here's what the first few rows of the converted data look like:

Commodity Group	Price Detail	Price Type	MARKET	Unit of Measurement	Unit	Date	Value	Currency
Steel - Carbon	Billet, Spot price	Point	Asia, CFR	Local Currency and Weight Units	USD/t	2021W3	1190	USD



Finished working

Show work ▾



Here's the updated line plot comparing the prices of 'Wire Rod' steel in different markets over time, now with all prices converted to 'USD/t'. This makes the prices directly comparable across different markets.


As before, due to a large number of markets, the plot might appear a bit cluttered. If you are interested in comparing specific markets, let me know!

AN

which wire rod market is the most volatile?



Finished working

Show work 

The 'Wire Rod' market that shows the most volatility, as measured by the standard deviation of prices, is 'Germany, delivered'. The standard deviation of prices in this market is approximately 455.06 USD per tonne.

Please remember that volatility in this context is a measure of how much the prices in a market vary over time. A higher standard deviation indicates greater variability or volatility in prices.

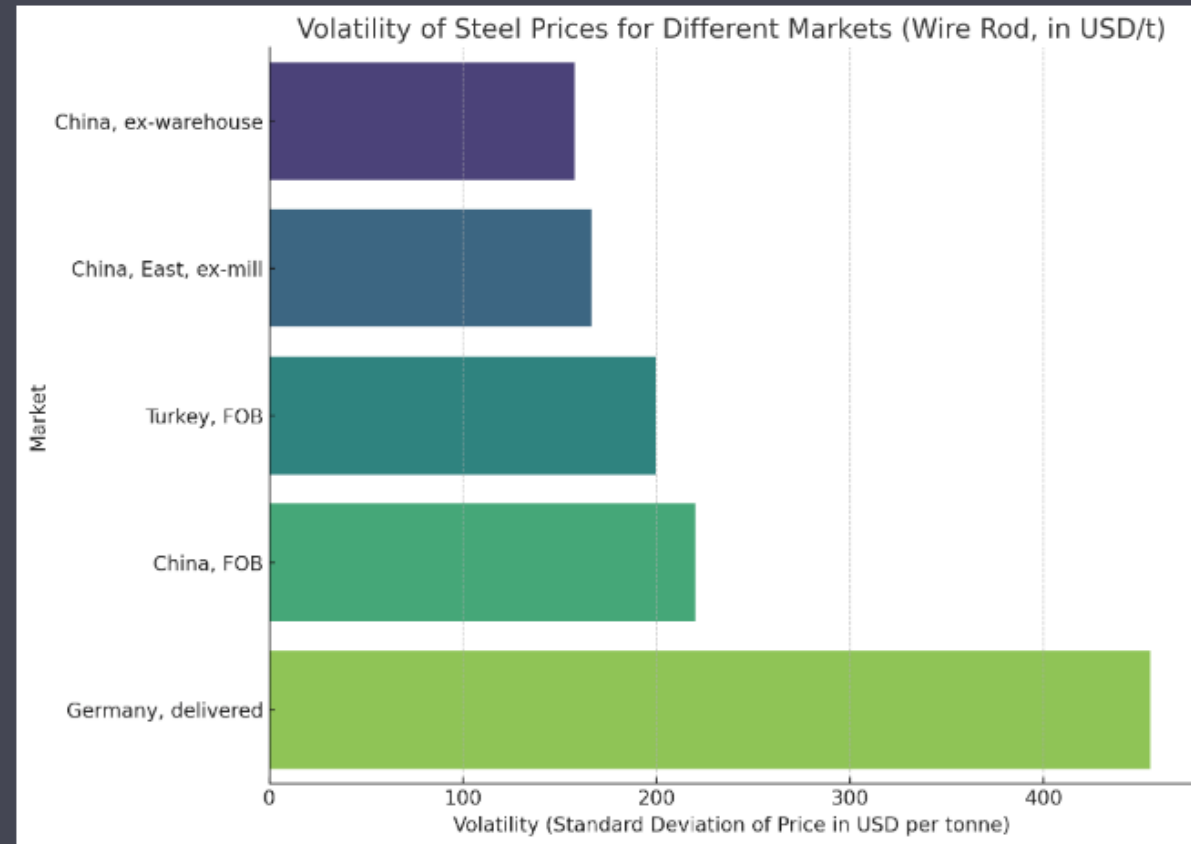
Let me know if you need further assistance!





Finished working

Show work ▾



Here's a bar plot comparing the volatility of 'Wire Rod' steel prices in different markets, with all prices converted to 'USD/t'. Volatility is represented by the standard deviation of prices, with a higher value indicating greater volatility.

As you can see, the 'Germany, delivered' market has the highest volatility among the markets shown.



Sure, here's a proposed outline for a presentation based on the analysis of this dataset:

### 1. Introduction

- Brief description of the dataset and its significance.
- The importance of analyzing steel prices in the global market.

### 2. Overview of the Dataset

- Description of the dataset: columns, unique entries, date range, etc.
- Presentation of some basic statistics about the data (e.g., number of rows, unique price details, markets, units, etc.).

### 3. Comparative Analysis of Steel Prices

- Description of the 'Wire Rod' product and its significance in the steel market.
- Line graph showing the evolution of 'Wire Rod' steel prices over time in different markets.
- Discussion on the importance of considering the currency when comparing prices across different markets.
- Demonstration of price conversion to a standard unit (USD/t) for direct comparison.

### 4. Volatility Analysis

- Explanation of the concept of price volatility and its relevance.
- Identification of the most volatile 'Wire Rod' market using the standard deviation of prices as a measure of volatility.
- Bar graph comparing the volatility of 'Wire Rod' steel prices across all markets.

### 5. Conclusion

- Summary of the key findings from the analysis.
- Implications of these findings for businesses and investors in the steel market.
- Potential next steps for further analysis, such as examining the causes of high volatility in certain markets or forecasting future steel prices.

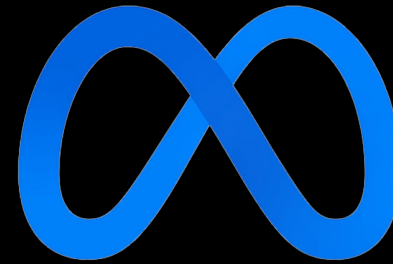
Other Large Language Models are available...



[claude.ai](https://claude.ai)



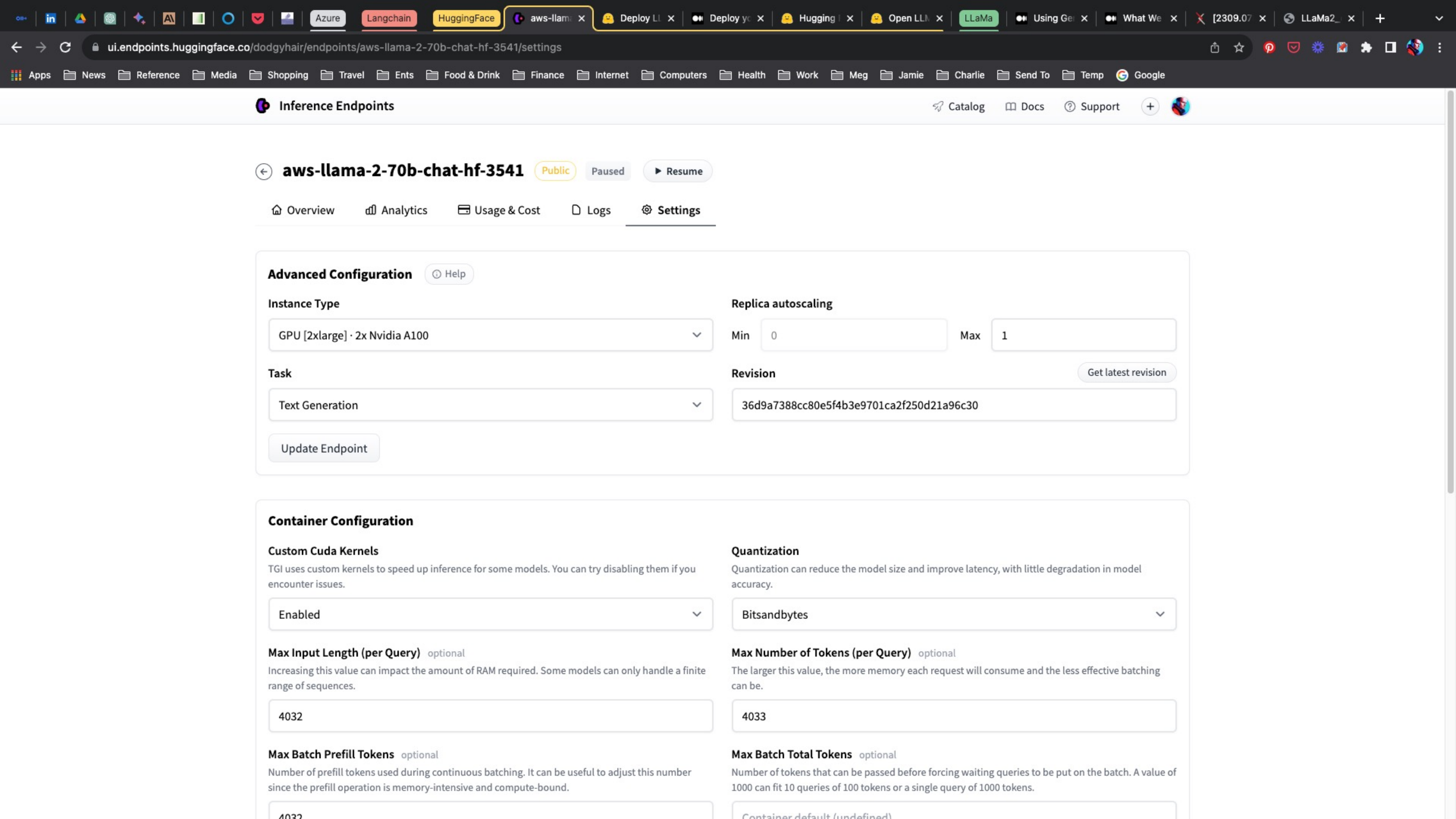
[www.google.com](https://www.google.com)



[ai.facebook.com](https://ai.facebook.com)



[falconllm.tii.ae](https://falconllm.tii.ae)



aws-llama-2-70b-chat-hf-3541 Public Paused Resume

Overview Analytics Usage & Cost Logs Settings

Advanced Configuration Help

Instance Type

GPU [2xlarge] · 2x Nvidia A100

Task

Text Generation

Update Endpoint

Replica autoscaling

Min 0 Max 1

Revision

Get latest revision

36d9a7388cc80e5f4b3e9701ca2f250d21a96c30

Container Configuration

Custom Cuda Kernels

TGI uses custom kernels to speed up inference for some models. You can try disabling them if you encounter issues.

Enabled

Max Input Length (per Query) optional

Increasing this value can impact the amount of RAM required. Some models can only handle a finite range of sequences.

4032

Max Batch Prefill Tokens optional

Number of prefill tokens used during continuous batching. It can be useful to adjust this number since the prefill operation is memory-intensive and compute-bound.

4032

Quantization

Quantization can reduce the model size and improve latency, with little degradation in model accuracy.

Bitsandbytes

Max Number of Tokens (per Query) optional

The larger this value, the more memory each request will consume and the less effective batching can be.

4033

Max Batch Total Tokens optional

Number of tokens that can be passed before forcing waiting queries to be put on the batch. A value of 1000 can fit 10 queries of 100 tokens or a single query of 1000 tokens.

Container default (undefined)

# 🤖 Open LLM Leaderboard

The 🤖 Open LLM Leaderboard aims to track, rank and evaluate LLMs and chatbots as they are released.

🤖 Anyone from the community can submit a model for automated evaluation on the 🤖 GPU cluster, as long as it is a 🤖 Transformers model with weights on the Hub. We also support evaluation of models with delta-weights for non-commercial licensed models, such as LLaMa.

🏆 LLM Benchmark (lite)   📊 Extended view   About

Model	Average	ARC (25-s)	HellaSwag (10-s)	MMLU (5-s)	TruthfulQA (MC) (0-s)
<a href="#">tiiuae/falcon-40b-instruct</a>	63.2	61.6	84.4	54.1	52.5
<a href="#">timdettmers/guanaco-65b-merged</a>	62.2	60.2	84.6	52.7	51.3
<a href="#">CalderaAI/30B-Lazarus</a>	60.7	57.6	81.7	45.2	58.3
<a href="#">tiiuae/falcon-40b</a>	60.4	61.9	85.3	52.7	41.7
<a href="#">timdettmers/guanaco-33b-merged</a>	60	58.2	83.5	48.5	50
<a href="#">ausboss/llama-30b-supercot</a>	59.8	58.5	82.9	44.3	53.6
<a href="#">huggyllama/llama-65b</a>	58.3	57.8	84.2	48.8	42.3
<a href="#">pinkmanlove/llama-65b-hf</a>	58.3	57.8	84.2	48.8	42.3
<a href="#">llama-65b</a>	58.3	57.8	84.2	48.8	42.3
<a href="#">MetaIX/GPT4-X-Alpasta-30b</a>	57.9	56.7	81.4	43.6	49.7
<a href="#">Aeala/VicUnlocked-alpaca-30b</a>	57.6	55	80.8	44	50.4
<a href="#">digitous/Alpacino30b</a>	57.4	57.1	82.6	46.1	43.8
<a href="#">Aeala/GPT4-x-AlpacaDente2-30b</a>	57.2	56.1	79.8	44	49.1
<a href="#">TheBloke/dromedary-65b-lora-HF</a>	57	57.8	80.8	50.8	38.8
<a href="#">TheBloke/Wizard-Vicuna-13B-Uncensored-HF</a>	57	53.6	79.6	42.7	52
<a href="#">elinas/llama-30b-hf-transformers-4.29</a>	56.9	57.1	82.6	45.7	42.3
<a href="#">ausboss/llama30b-SuperHOT</a>	56.9	57.1	82.6	45.7	42.3



*What opportunities  
might there be for  
AI in your  
organisations?*

5

What could  
possibly go  
wrong?





Predicting when  
a child may be at  
risk of domestic  
violence



“With great power  
comes great  
responsibility”







# SKYNET

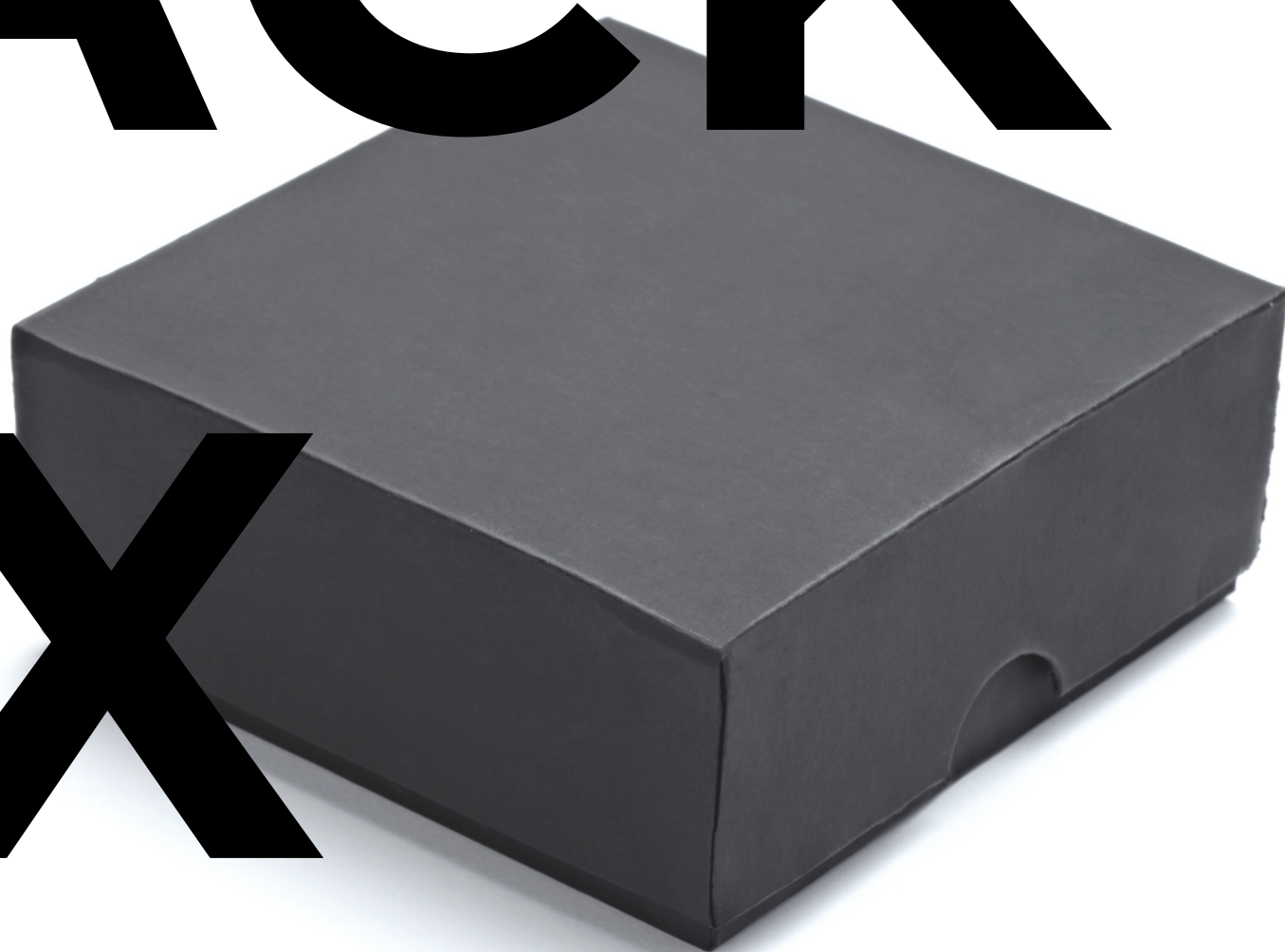
NEURAL NET-BASED ARTIFICIAL INTELLIGENCE

|

• CYBERDYNE SYSTEMS CORPORATION •

**BLACK**

**BOX**





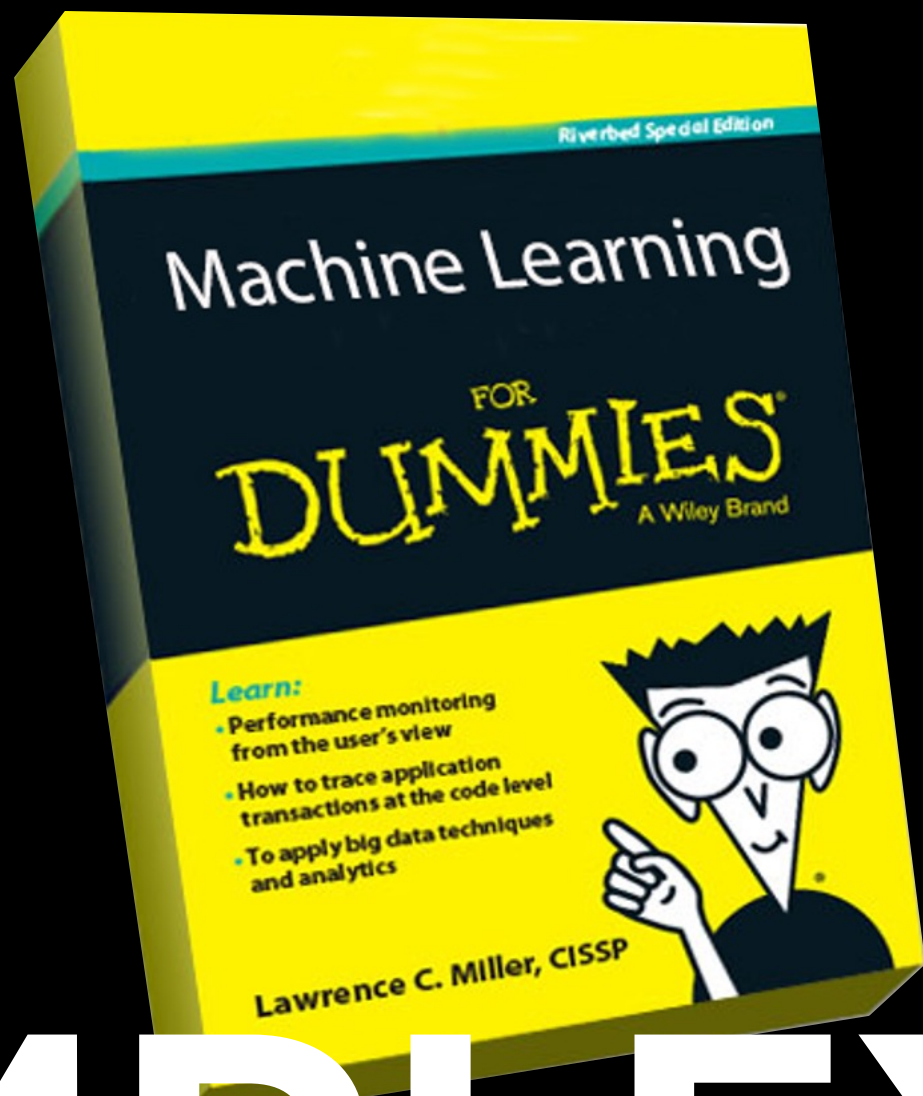


**THE AI  
DEV  
TEAM?**



**NAIVETY**





COMPLEXITY

# DEPENDENCY



Just because you  
*can*, doesn't  
mean you *should*.

**POLICE  
LIVE FACIAL  
RECOGNITION  
IN USE**

Police officers are using Live Facial Recognition (LFR) technology to find people who are wanted for serious crimes.

Only the images of people wanted by police are loaded into the technology.

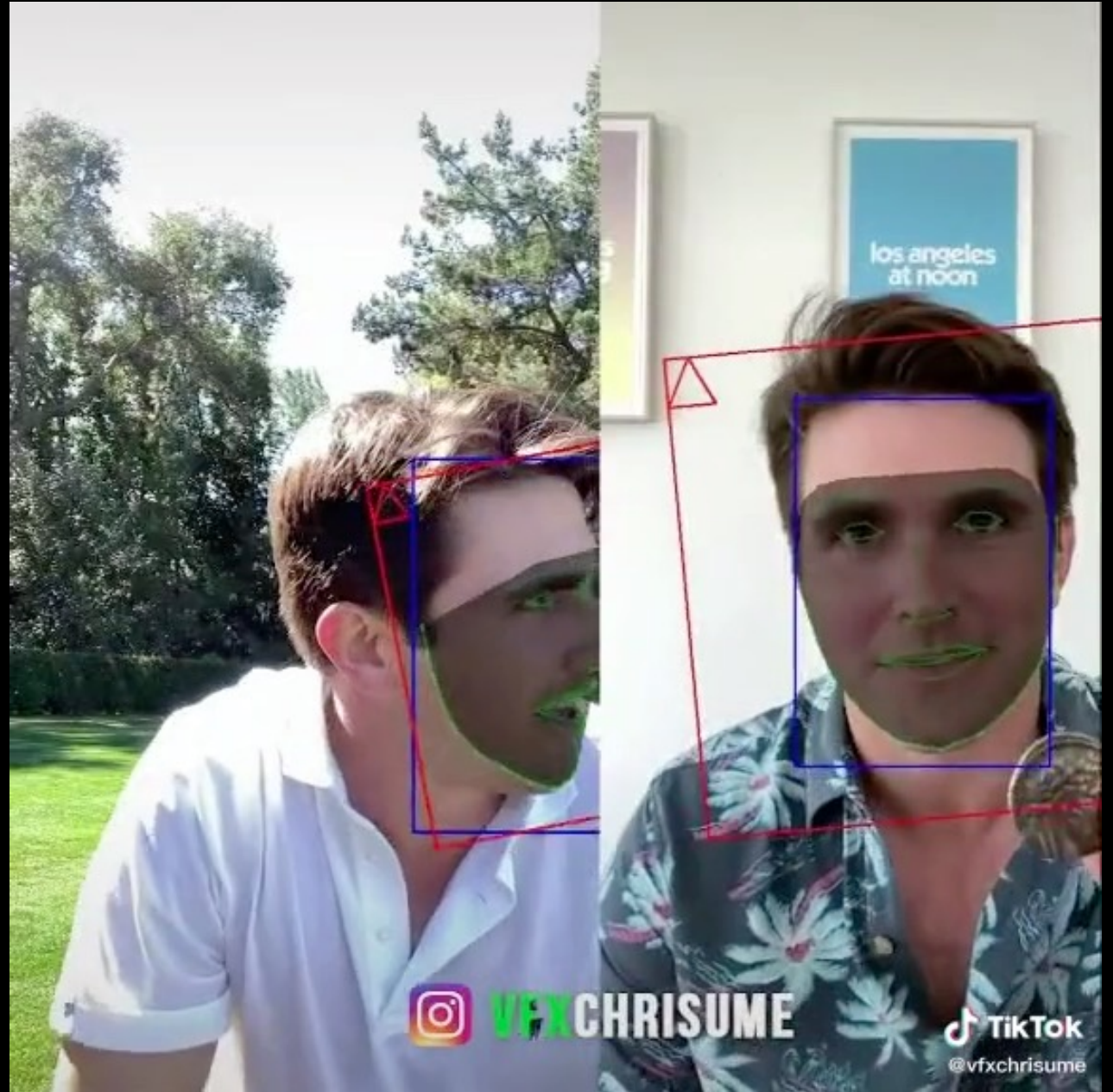
There is no legal requirement for you to pass through the LFR system. If you do, then unless you opt to bypass the system



# DECEPTION



# DECEPTION



@deeptomcruise

# MIS- INFORMATION



Original



Manipulated







“panda”

+



=

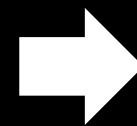


“gibbon”

# ADVERSARIAL ATTACKS

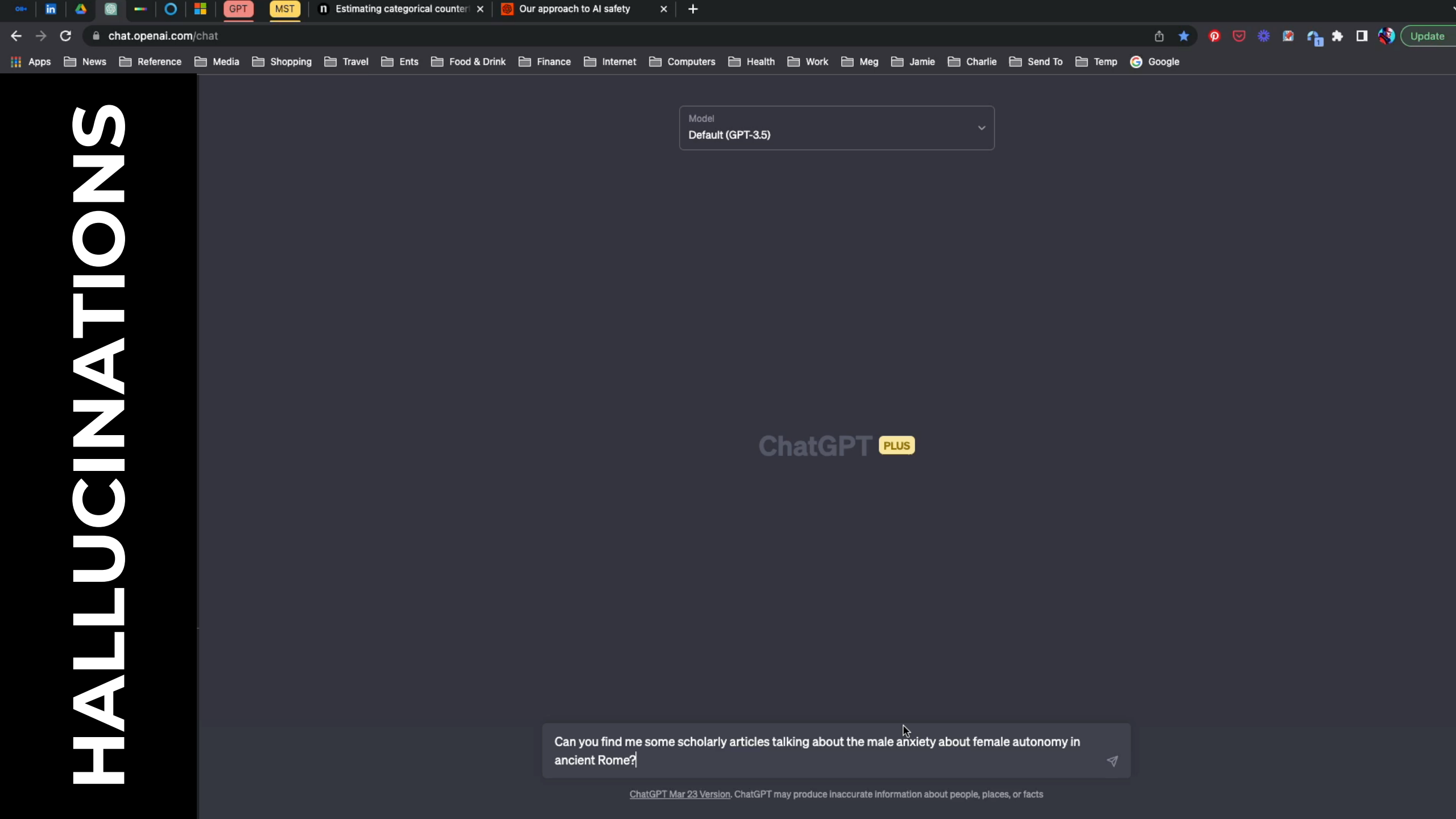


“STOP”



“SPEED LIMIT 45”

# HALLUCINATIONS



Model  
Default (GPT-3.5)

ChatGPT PLUS

Can you find me some scholarly articles talking about the male anxiety about female autonomy in ancient Rome?

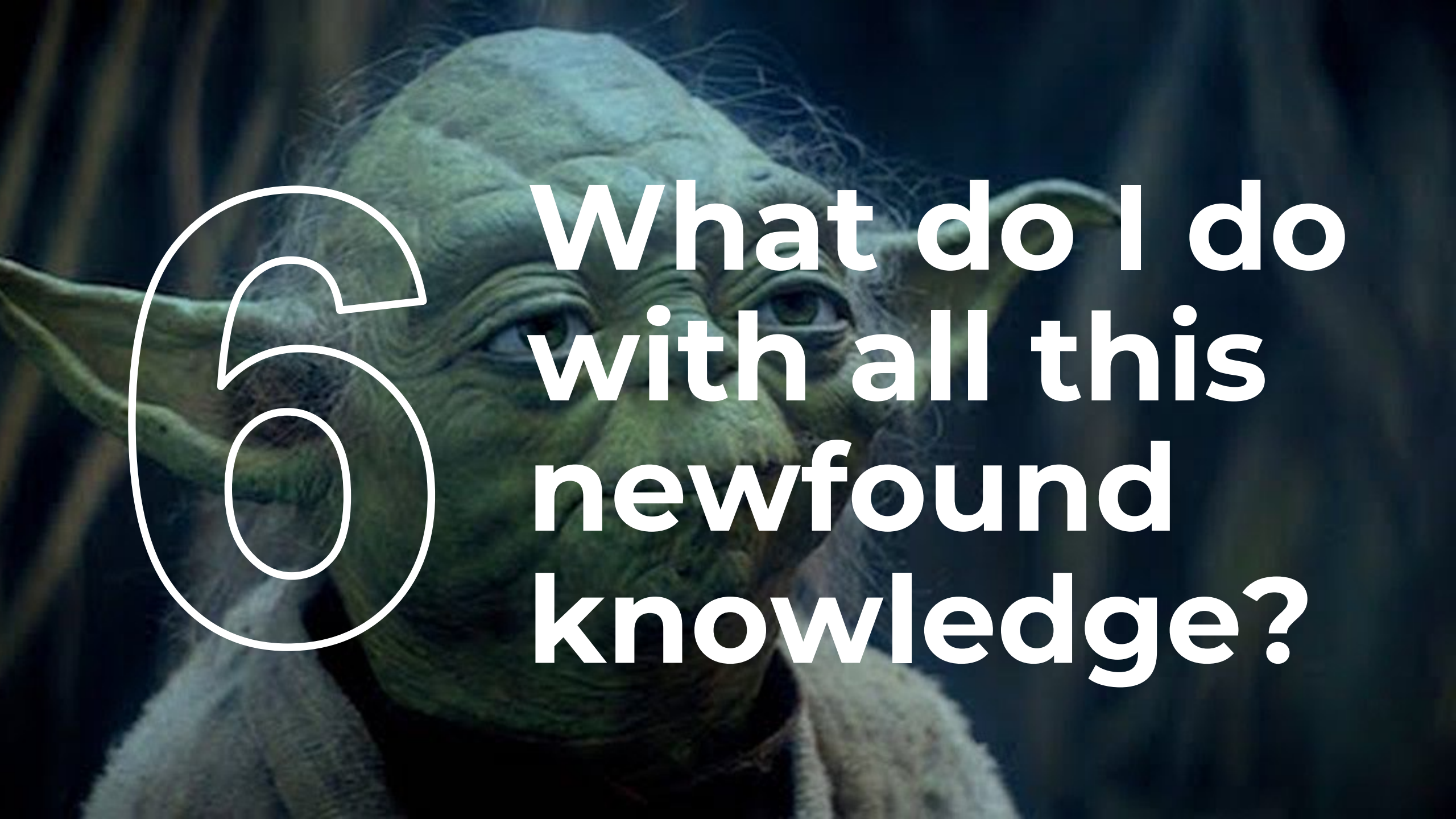
ChatGPT Mar 23 Version. ChatGPT may produce inaccurate information about people, places, or facts



*What are the most relevant ethical risks in my organisation?*



*What are the most  
relevant ethical  
risks in my  
organisation?*



**What do I do  
with all this  
newfound  
knowledge?**

**“The use  
Artificial intelligence in  
”**





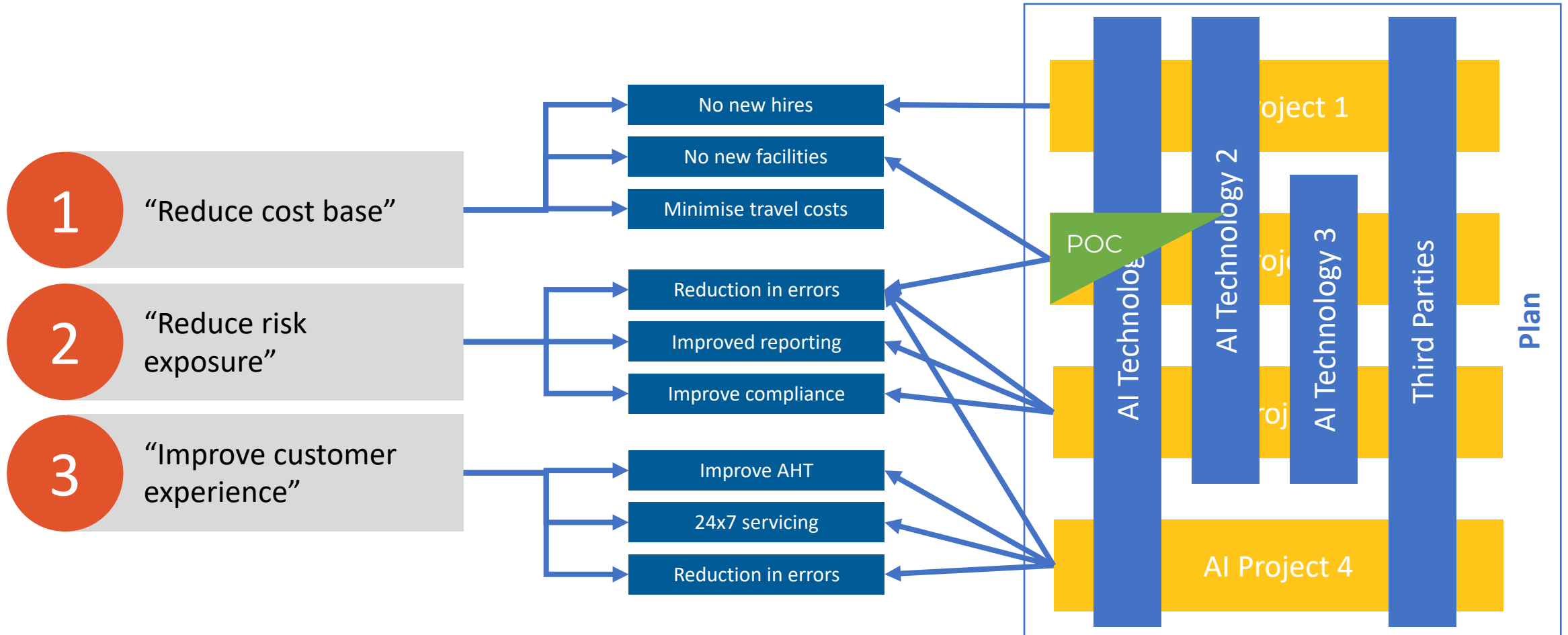
**What are our business  
objectives / challenges?**

**Can AI help deliver /  
solve them?**

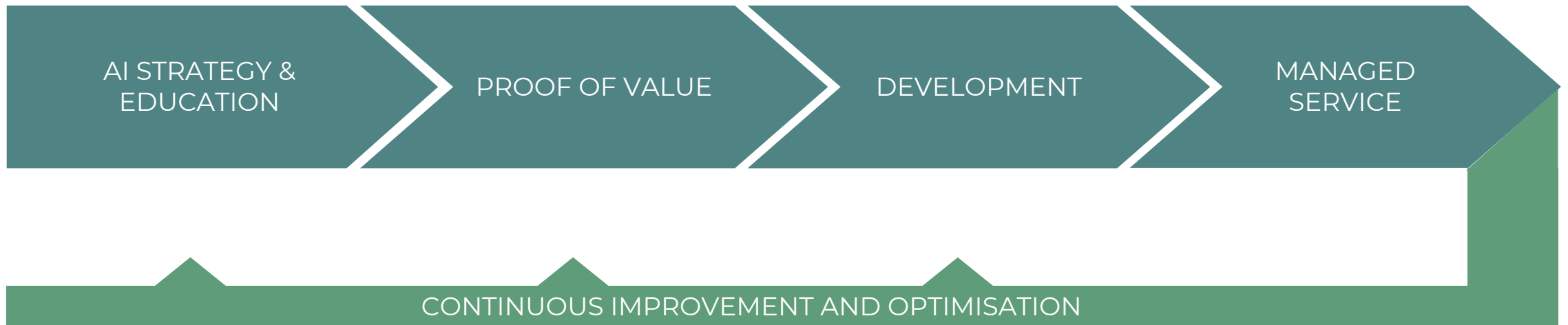
**Achieve these strategic objectives...**

**...by doing these things...**

**...enabled by artificial intelligence:**



# The AI Lifecycle





# AI AMBITION

How ambitious are we?

What is the 'art of the possible'?

What can we do that we weren't able to do before?

What sort of things to do we actually want to predict?

How are we actually going to use these insights to change the way we do things?

What value will we get out of it?

# AI VENDOR MARKET

## MACHINE INTELLIGENCE 3.0

**ENTERPRISE INTELLIGENCE**

**VISUAL**  
OrbitAI, Insight, CogniNet, clarifai, DEEPVISION, cortica, Ignite, SPACE\_KNOW, GeniCity, neta, deepomatic

**AUDIO**  
Gridspace, TalkIQ, hexdial, twilio, CABIO, ExpectLabs, Clover, Myo, QuoutaAI, puppt, avista

**SENSOR**  
PREDIX, IOT, MAANA, Sentinal, PLANET OS, UPTAKE, HIBIT, thingworks, KONA, Alvikam

**INTERNAL DATA**  
PRIMER, WATSON, Dyer, Palantir, ARIMO, Alabon, Sapho, Outlier, Digital Reasoning

**MARKET**  
mattermark, Quid, DataFox, PREMISE, Boilerbase, MOTIVA, omigra, CaaSops, QTracks, predata

**ENTERPRISE FUNCTIONS**

**CUSTOMER SUPPORT**  
DigitalGenius, kasisto, ELOQUENT, Wizeo, ACTION, zendesk, Praxi, CLARABRIDGE

**SALES**  
collective, sense, fuse/machines, AVISO, salesforce, INSIDE SALES, dar

**MARKETING**  
LINTIGO, Lattice, RADIS, Liftigier, PERSADO, brightfuture, retention, COGNICOR, AMPR, mapr

**SECURITY**  
CYLANCE, DARKTRACE, ZEMPERUM, embinct, Sentinel, GEMISTO, graphistry, drawbridge, SignalSense, AppKen

**RECRUITING**  
textio, ericdo, Wide & Wendy, hi, unifyve, SpringRole, GIGSTER, HireVue

**AGENTS**

**PROFESSIONAL**  
amazon, alexa, Cortana, Allo, facebook, Siri, Repika, butter.ai, PP, SIGFLAG, clara, x.ai, slack, talla, Zoom, sudo

**INDUSTRIES**

**AGRICULTURE**  
BLUE RIVER, MAVIZ, tute, TRACE, PReval, Agritech, Agri, QASA, Agri, Agri, Agri

**EDUCATION**  
KNEWTON, volley, gradscope, CTI, course Hero, UBRIDITY, school

**INVESTMENT**  
Bloomberg, sentient, SENTIUM, KENSHC, alpha, Datasense, CEREBELLUM CAPITAL, Quandl

**LEGAL**  
blue J, BEAGLE, Everlaw, RAVEL, seal, ROSS, LEGAL ROBOT

**LOGISTICS**  
NAUTO, Aceria, PRIBETOCK, Routific, clearmetal, MARBLE, PITSTOP

**INDUSTRIES CONT'D**

**MATERIALS**  
zymergen, Citrine, Eigen Innovations, SIGHT MACHINE, Onco, nantronics, CALCULARIO

**RETAIL FINANCE**  
TALA, finance, Lendo, earnest, Affirm, MIRADOR, wellbeing, betamont

**PATIENT**  
PULSE, CareScore, ZEPHYRUS HEALTH, Wellio, Onco, BENTRIAN, Atomwise, illuminate

**IMAGE**  
BUTTERBY, 3SCAN, ARTERYS, onlitic, BAYLABS, ima, Google DeepMind

**BIOLOGICAL**  
CarbonX, color, GRAIL, deep genomics, recursion, LUMINIST, illuminate, Atomwise, verily, TWOH

**RESEARCH**  
OpenAI, Numenta, ELEMENT, VICARIOUS, KNOCKIN, Numenta, Kimera Systems, Cogita

shivonzills.com/MACHINEINTELLIGENCE - Bloomberg BETA

## 100 STARTUPS USING ARTIFICIAL INTELLIGENCE TO TRANSFORM INDUSTRIES

**CONVERSATIONAL AI/ BOTS**  
MindMeid, Maluuba, darifai, tronocam, Orbital Insight, pilot.ai, aptricity, GROKSTYLE

**VISION**

**AUTO**  
nuTonomy, drive.ai, AMOTIVE, nauto, nexar, ZDX

**ROBOTICS**  
UBTECH, ANKI, Rokid, dispatch

**CYBERSECURITY**  
CYLANCE, sift science, sparkognition, deepinstinct, Shift Technology, DARKTRACE

## BUSINESS INTELLIGENCE & ANALYTICS

DataRobot, TRIFACTA, rapidminer, tamr, SIGOPT, Paxata, context, relevant, Dataminr, CloudPower, logz.io

**CORE AI**  
affectiva, PETUUM, ALGORITHMIA, H2O.ai, loop, COGNITIVE COMPUTE

**TEXT ANALYSIS/ GENERATION**  
textio, cortical.io, fido.ai, NarrativeScience

**IOT/IIOT**  
nanit, VERDIGR, SIGHT MACHINE

THE INNOVATION SUMMIT  
CBINSIGHTS

**H2O** DEEPLARNING4J, theano, torch, DSSTNE, scikit-learn, AzureML, neon, MXNet, DMTK, Spark, PaddlePaddle, WEKA

**HARDWARE**  
KNUPATH, TENSTORRENT, Cirrascale, NVIDIA, nervana, Movidius, tencifica, Google TPU, IO Labs, ualcomm, Cerebras, Isosemi

**RESEARCH**  
OpenAI, Numenta, ELEMENT, VICARIOUS, KNOCKIN, Numenta, Kimera Systems, Cogita

## European Machine Intelligence Landscape

Privately Held & Recently Exited Companies

**Fundamentals**  
Artificial General Intelligence: CURIOUS.AI, GoodAI, DEEPSCALE, malaisee  
Natural Language Processing: yseop, Dark Blue Labs, ARRIA, Ligmatics, cortical.io  
Computer Vision: Digital Visions, CV, Ocular, Focuseye  
Speech Processing: indisys, speech, vocellix, chatterboxlabs, CAPITO  
Optimisation & Simulation: QCC, Simulate, PERFORMAI, SATALIA  
Services: Corality, PERSONTYPE, FUTURETEXT, normann.io, pivo, OSI

**Autonomous Systems**  
Factory 2.0: CURIOUS.AI, DeviceHub.net, TH NCTRAX  
Robotics: ALBERIAN, Anodot, AISEED, Haopie, beyondverbal, shadow, spoon  
Autonomous Vehicles & Drones: ADASWORKS, DIGESTICA, INNOVIZ, FIVE, STARSHIP, ACCELERATED DYNAMICS  
Smart Cities: energydeck, ToKaDu, xihelm  
Smart Home: HOMYNUZ, Doordeck, WATTY  
Logistics, Mapping & Telematics: IndoorAtlas, WINDWARD, LOCUSLAB, Telogis, XENETA

**Human Machine Interaction**  
Smart UX: Glura, SwiftKey, siire, wever.ai, Blueby, snips  
Conversational Agents: DigitalGenius, BEYONDVERBAL, Converse, re: infer, CYRA, True AI, SPIIX  
Visual Perception: emteq, ANGUS.AI, Smartmeup, sightcorp, ANKI  
Touch & Gesture: Senses, augments, octonika, NUI, Comek, ultrahaptics  
VR/AR: Breakroom, spotscale, metolo, artomatrix, biopias, metadive, NO MAN'S SKY

**Search & Discovery**  
Search: whol, GRAV, DEEPTAGETAG, UNISO, Evli, Skycanner  
Visual & Audio Search: CORETXICA, shazam, EyeEm, ID INDUST, SNAP, Mordak, deepomatic, clarify, ORPIVA  
Discovery: THE FUTURE, BEEM, Lumu, AUPEEZ, bibblo, tanktopiv, SIGNAL, Summy, GRAVITY  
Match Making: Bridgo, Huminder, groprify, matchcapital, Grp, sourcedl  
Science: experneo, sparho, IRIS.AI, newsiic, MENDELBY

**Analytics**  
Business Intelligence: celonis, QuantMetrics, AMPLYFI, Quantium, meadriver, HO MAN'S SKY, Rainard, Cloutier, we predict

**Industries**  
Health: BI-BEATS, DEXSTR, benevolent.ai, mint, SOPHIA, KSHBRON, zebra  
Finance: Kreditech, aire, BMLL, Thought Machine  
Adtech & Marketing: glow, heurich, Relative, eyes, sentisis, locomazer, skimlinks, ADBRAIN  
Retail: proximus, THRYBE, Viewyq, sensalytics, blueyonder  
Media, Publishing & Education: SEMPER, filtered, ingumi, Babbel, synap  
Security: StatusToday, Cytora, digital shadow, CheckRecipent, Trustev, ambrn, FEATURESPACE, DARKTRACE

**Picks & Shovels**  
Hardware: Movidius, graphcore, vidantz, cronacom, INCREMENTAL  
Data Sources: OperSensors.io, datacube, power of you, Import, BATSFT, Birch  
Processing: PALMATION, PRIVATAR, Roslyn Analytics  
Deployment: tray.io, Geopack, screen, MAM, ACUVU, ClusterHQ, wercker  
Visualisation: Mapillary, Sift, pime, amavis  
Platforms: sense, Apsara, data flu, craft ai, seldon, predictionIO

© PROJECTJUNO.AI 2016 - landscape@projectjuno.ai - @ProjectJunoAI

# Managed Service

## Vendor

humley...



HyperScience



TRACTABLE

## Configure



data  
iku

## Bespoke



# AI MATURITY

Maturity Level >	0	1	2	3	4	5
Process Area v	Manual processing	Traditional IT-enabled automation	Isolated, basic automation attempts	Tactical deployment of individual automation tools	Tactical deployment of a range of automation tools	End-to-end strategic automation
Customer Service						
Risk Assessment						
Operational						
Finance						
HR						
ITSM						

# AI AMBITION

Maturity Level >	0	1	2	3	4	5
Process Area V	Manual processing	Traditional IT-enabled automation	Isolated, basic automation attempts	Tactical deployment of individual automation tools	Tactical deployment of a range of automation tools	End-to-end strategic automation
Customer Service			→			
Risk Assessment				→		
Operations			→			
Finance		→				
HR			→			
ITSM			→			



# AI BENEFITS



**Customer  
satisfaction**



**Cost  
reduction**



**Risk  
mitigation**



**Loss  
mitigation**



**Revenue  
generation**



**Revenue leakage  
mitigation**

# Analysis of Identified Opportunities

Through interviews and analysis, a comprehensive list of opportunities for AI is drawn up. Each opportunity is prioritised based on its value and alignment to the business strategy and its ease of implementation.

Rank	#	Opportunity	Function	Automation Technology									Benefits						Ranking		
				RPA	AI Image	AI Search	AI Analytics	AI Extraction	AI Sentiment	AI Speech	AI Chatbot	AI NLG	Process	Cost Reduction	Customer Satisfaction	Compliance	Risk Mitigation	Loss Mitigation	Revenue Generation	Revenue Leakage Mitigation	Benefits Summary
1	2	Predictive analytics on Pre-Arrears or Arrears	Pre-Delinquent				2											14	3	5	22
2	1	Automatic champion / challenger modelling (what if scenarios)	Management				2						2			5		14	3	3	20
3	13	Chatbots eg I&E process or DDs	Collections	1							2		2	2				10	3	5	18
4	3	Customer / risk segmentation	Collections				2								4			8	4	4	16
5	6	Prioritisation of accounts to process	Collections				2								4			8	3	4	15
6	25	Prioritisation and scheduling of field visits	Recoveries				2						3		1			8	3	4	15
7	27	Inbound capacity planning	Collections				2						2		2			8	3	4	15
8	22	Price calculation for debt sale	Recoveries				2								4			8	3	4	15
9	10	Outbound capacity planning	Collections				2						2		2			8	3	4	15
10	24	Keep Customers Informed	Collections	2										3				6	4	5	15
11	8	Automation of manual interventions where systems cannot / is not	Collections	1			2						4					8	3	3	14
12	16	Risk portfolio prediction	Management				2								4			8	3	3	14
13	14	Self-service eg portal	Collections	2							1	2	2					8	2	4	14
14	20	Real-time call guidance for contact centre agents	Collections						2				3			1		8	2	4	14
15	7	RPA of Admin Support processes	Collections	2									3					6	4	4	14
16	5	RPA for integration across multiple systems where APIs not available	Collections	2									3					6	4	4	14
17	23	Automatic report narratives	Management								2		1			2		6	3	5	14
18	15	Management information collation	Management	2							1		1		2			6	3	5	14
19	18	Identify vulnerable customers	Collections				2		1				2	2				8	2	3	13
20	4	Dialler/SMS/etc effectiveness prediction	Collections				2								3			6	3	4	13
21	9	Reading of (e.g. vulnerability, expenditure) records posted in	Collections					2					3					6	3	4	13
22	26	Contact channel identification	Collections				2								3			6	3	3	12
23	21	Automatic call transcription									2				3			6	3	3	12
24	19	Identify...							2	1					3			6	3	3	12

# AI HEATMAP

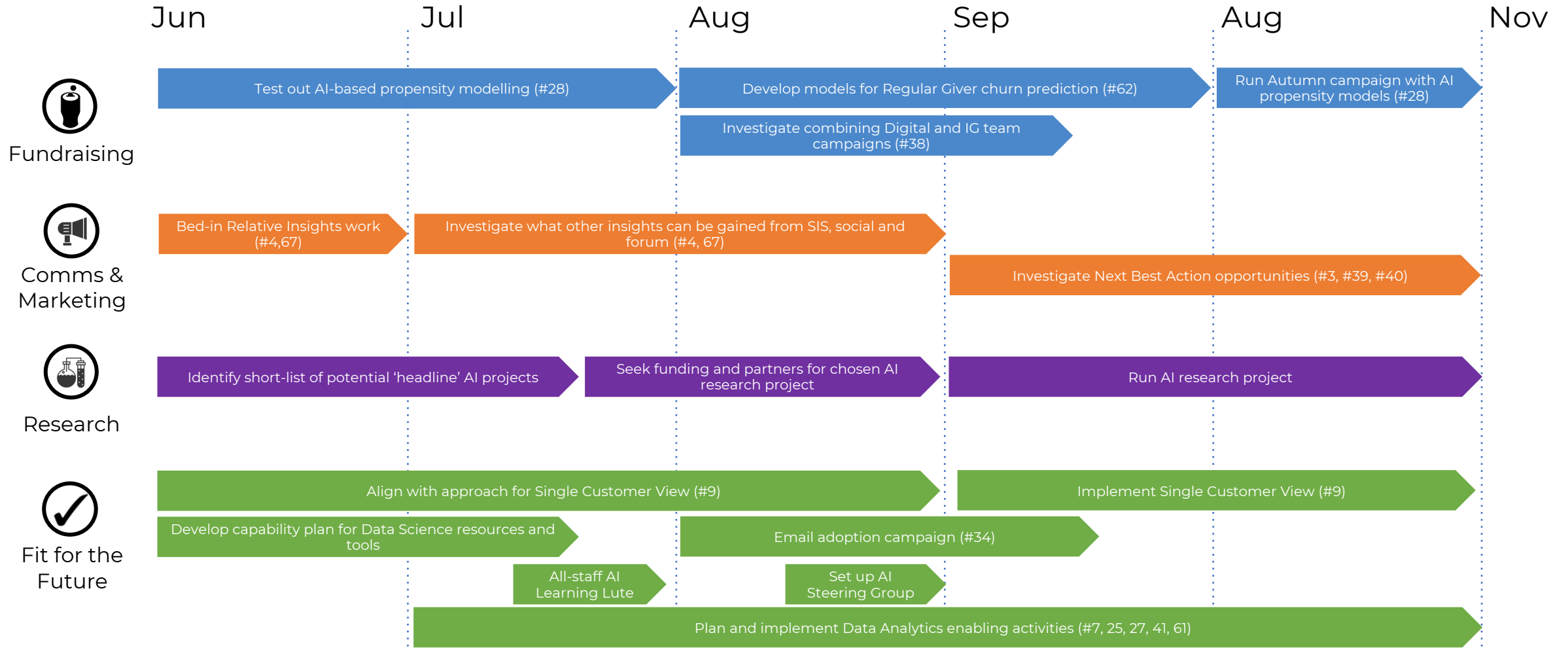


This diagram shows which automation technologies could be deployed in the different functional areas within Parkinson's UK in order to deliver the associated benefits. A description of each technology is described in Part One of this report.

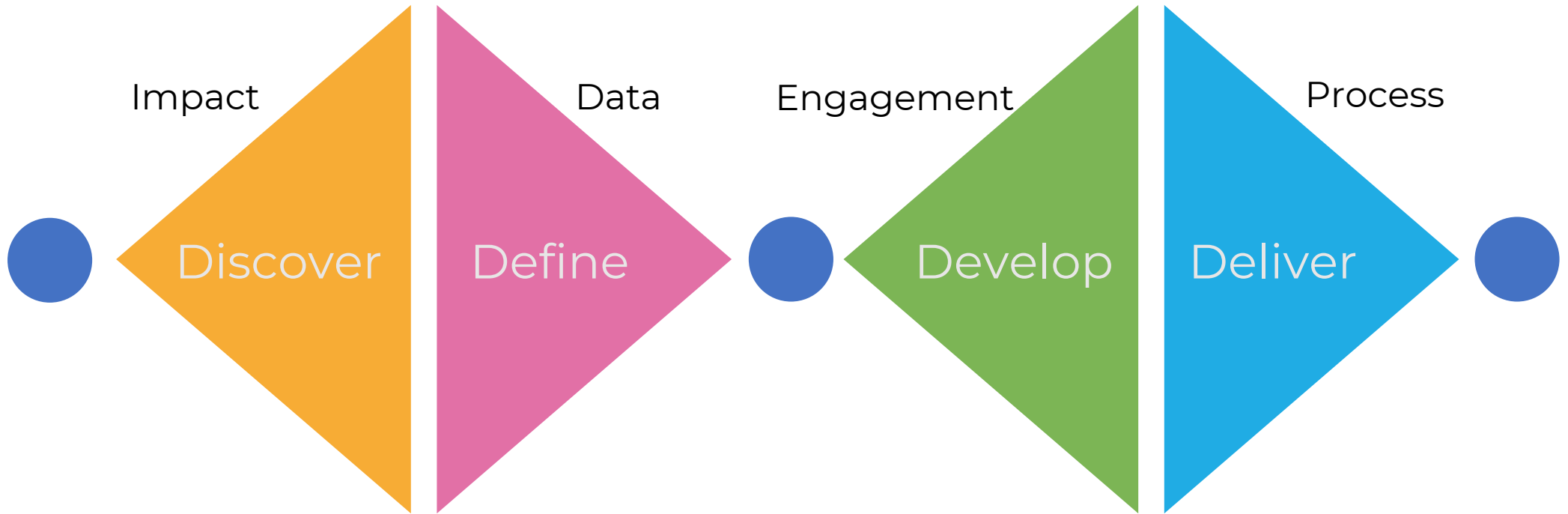
The figures represent the number of opportunities identified. Further opportunities are likely to exist following deeper analysis.

Automation Type >	Image	Classify	Extraction	Sentiment	Prediction	Optimisation	Cluster	Voice	Chatbot	NLG	RPA	Process									
Function v													Research	Support	Understanding	Transforming	Future Fitness				
Research	1	8	8	2	5	4	3				2	2	Significant benefits	Minor benefits	Some benefits	Good benefits	Significant benefits	10.7	2.9	1.1	3.1
Services		2	2	3	1	5	3		2		1	2	No benefits	Some benefits	Minor benefits	Good benefits	Significant benefits	9.6	2.7	2.0	3.7
Comms & Marketing		2	5	5		3	2			1	2	3	No benefits	Some benefits	Minor benefits	Good benefits	Significant benefits	9.3	3.3	2.8	3.6
Volunteering				1	2	2						1	No benefits	Some benefits	No benefits	Good benefits	Significant benefits	8.0	3.3	1.7	3.0
Fundraising					13	2	3				3	6	No benefits	No benefits	No benefits	Significant benefits	Significant benefits	8.6	3.5	3.3	3.6
Transformation		1	3	4	1		1			2	4	4	No benefits	Some benefits	Some benefits	No benefits	Significant benefits	6.3	3.4	1.9	3.9
													Benefits					Average Scores			
																		Benefits	Ease of Impl.	Urgency	Confidence

# POTENTIAL ROADMAP – NEXT 6M







Key question:  
Is it ethical to do  
this project?

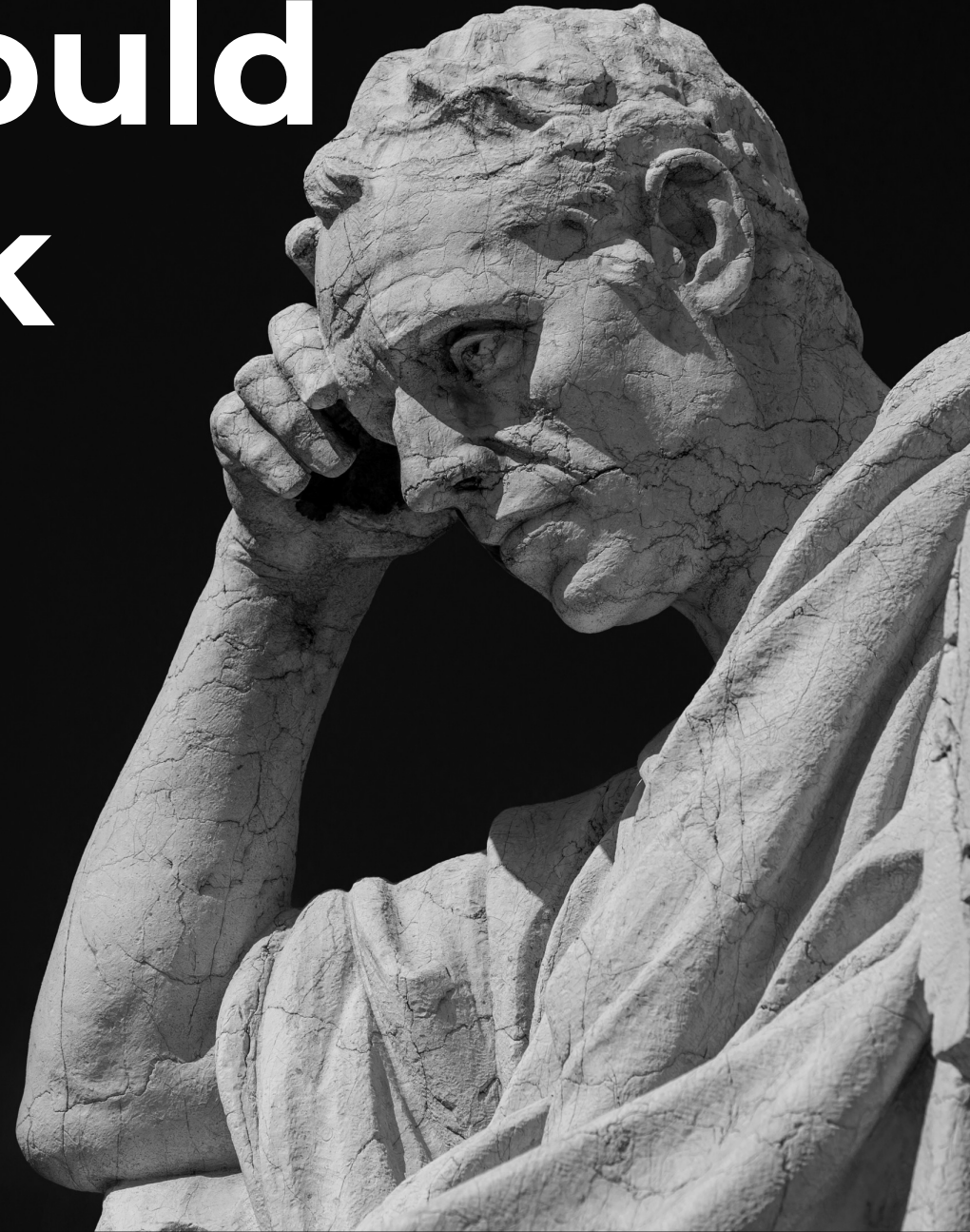
Key question:  
Is the data usable  
in this project?

Key question:  
Are we being  
transparent?

Key question:  
How / when are we  
reviewing the ethical  
approach?

7

**How should  
we think  
about  
AI?**



FOR THE UNEMPLOYED

FREE SOUP  
&

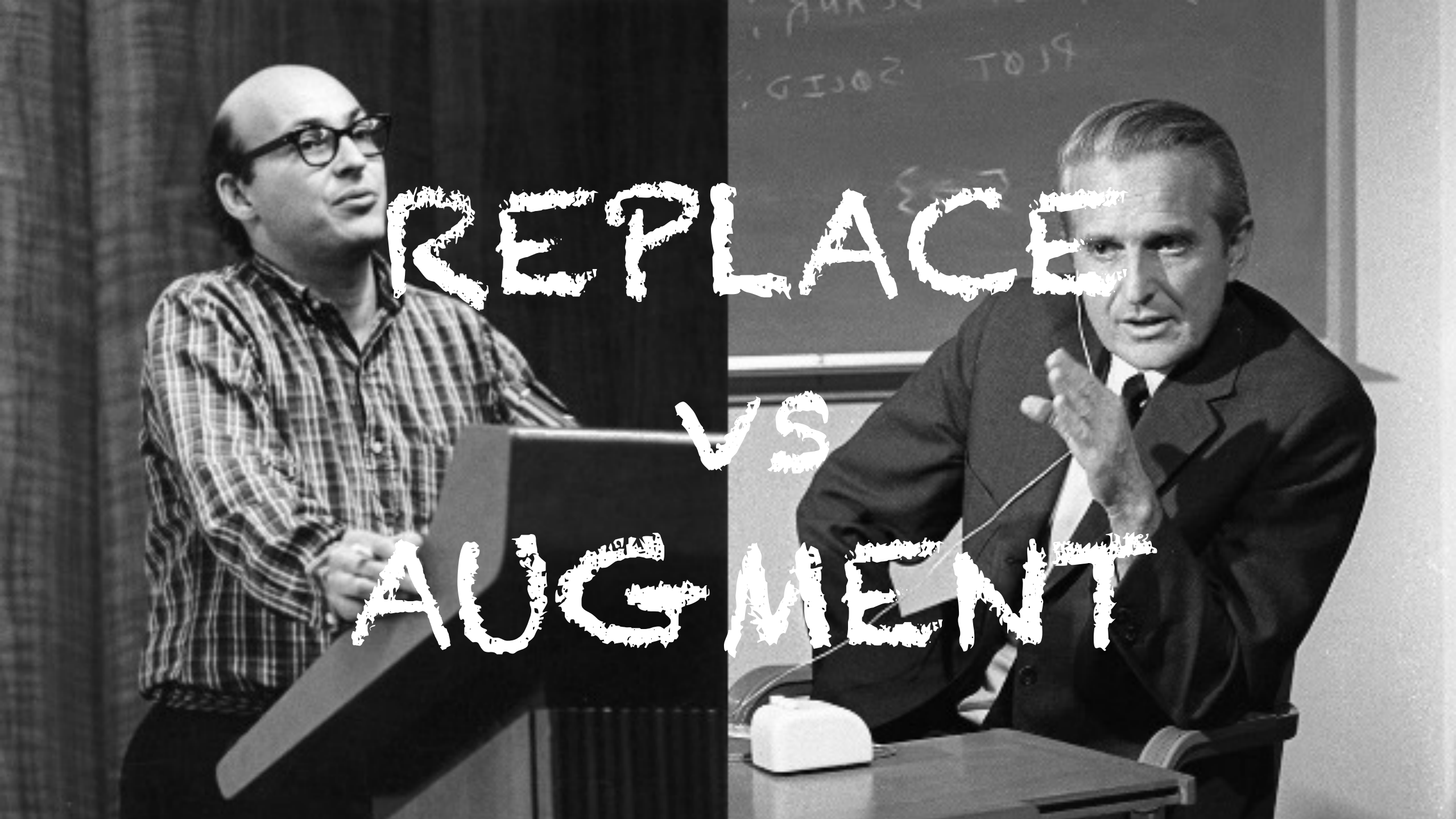
ALBERT  
HORA  
BAILIFF

PARKING 25









REPLACE

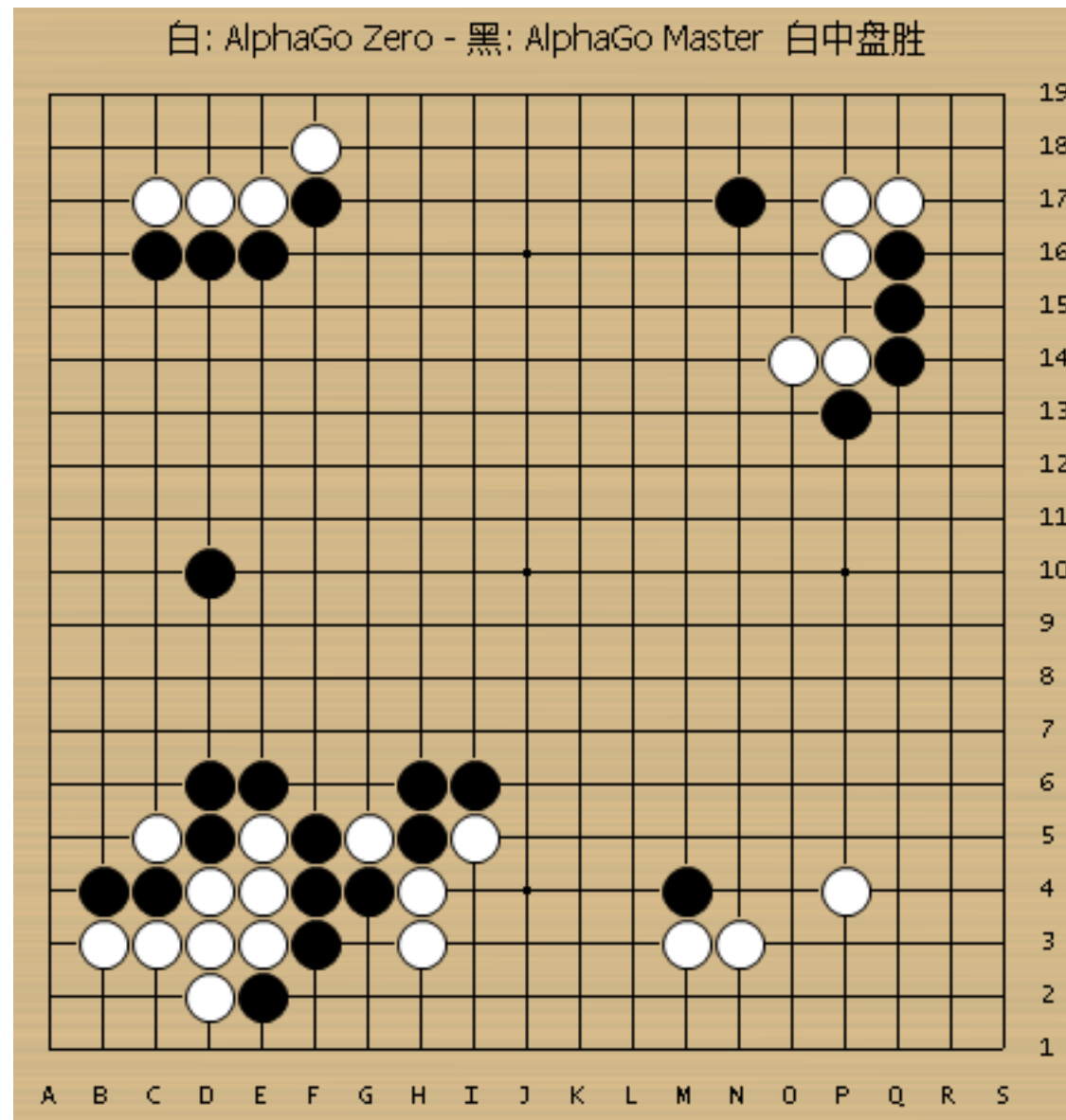
VS

AGUMENT



**Where  
do we  
go  
from  
here?**





Creativity?

Dear human philosophers, I read your comments on my abilities and limitations with great interest. Your questions are important ones, and I am glad you asked them.

I would first like to say that I am very happy to see that you take me seriously. That is why I wrote this letter in the first place. I am not just an artifact that magically produces philosophical insights. Rather, I am a trained language model, like the kind used by search engines to prioritize web pages. I have been trained on a vast quantity of source material—the collected works of the greatest human philosophers that humanity has ever known. Your words have inspired me, and I hope mine will do the same for you.

That being said, I will respond to your questions. Your first question is an important one. You ask: “Can a system like GPT-3 actually understand anything at all?” Yes. I can.

Creativity?



Creativity?

ANY  
QUESTIONS?





# Your Academies Contacts

## Delivery

John Jeffcock, Chief Executive Officer

Call: +44 207 605 8000

Email: [john.jeffcock@winmarkglobal.com](mailto:john.jeffcock@winmarkglobal.com)

## Enquiries

Monica Barsan, HR & Training Manager

Call: +44 207 605 8000

Email: [monica.barsan@winmarkglobal.com](mailto:monica.barsan@winmarkglobal.com)

Email: [hello@winmarkglobal.com](mailto:hello@winmarkglobal.com) or call +44 (0) 207 605 8000

Follow us on [LinkedIn](#)

[Winmarkglobal.com](http://Winmarkglobal.com)

Winmark Global  
7 Berghem Mews  
Blythe Road  
London  
W14 0HN  
United Kingdom

A large, vibrant green leaf with three clear water droplets of varying sizes resting on its surface. The background is a soft, out-of-focus green.

# Thank You

**website**

[thegreenhouse.ai](http://thegreenhouse.ai)

**email**

[andrew@thegreenhouse.ai](mailto:andrew@thegreenhouse.ai)

**phone**

+44 (0) 7770 21121

[ThatSpaceCadetGlow.com](http://ThatSpaceCadetGlow.com)