English Course to **Work with Artificial Intelligence Tools**
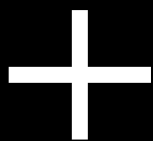
Renzo Cuadra

What's all the hype about?

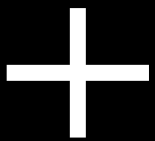The number of AI startups **has grown 14X** since 2000.
(Crunchbase)

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# 100 million people **employed in AI** by 2025.
(World Economic Forum)

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If you want to be one of those people, you need to learn English.

- Most AI companies use **English** as their **main language**.

- Most academic **papers** in the field are **written in English**.

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- Most **technologies** you will use in the AI field are **English based**.

- Most natural language **developments** and tools are English based.

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Learn the main words, phrases and expressions used in AI.
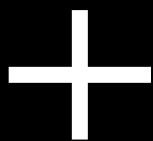
In this course you will:

- Learn the main vocabulary you will need to work in AI.
- Know professional roles in AI industry.
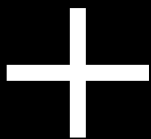- Interact with AI systems in English.

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Your project:

Practice a job interview with an AI and use key AI terms.

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Terms used in the industry of AI

Key terms stay in English.

General AI

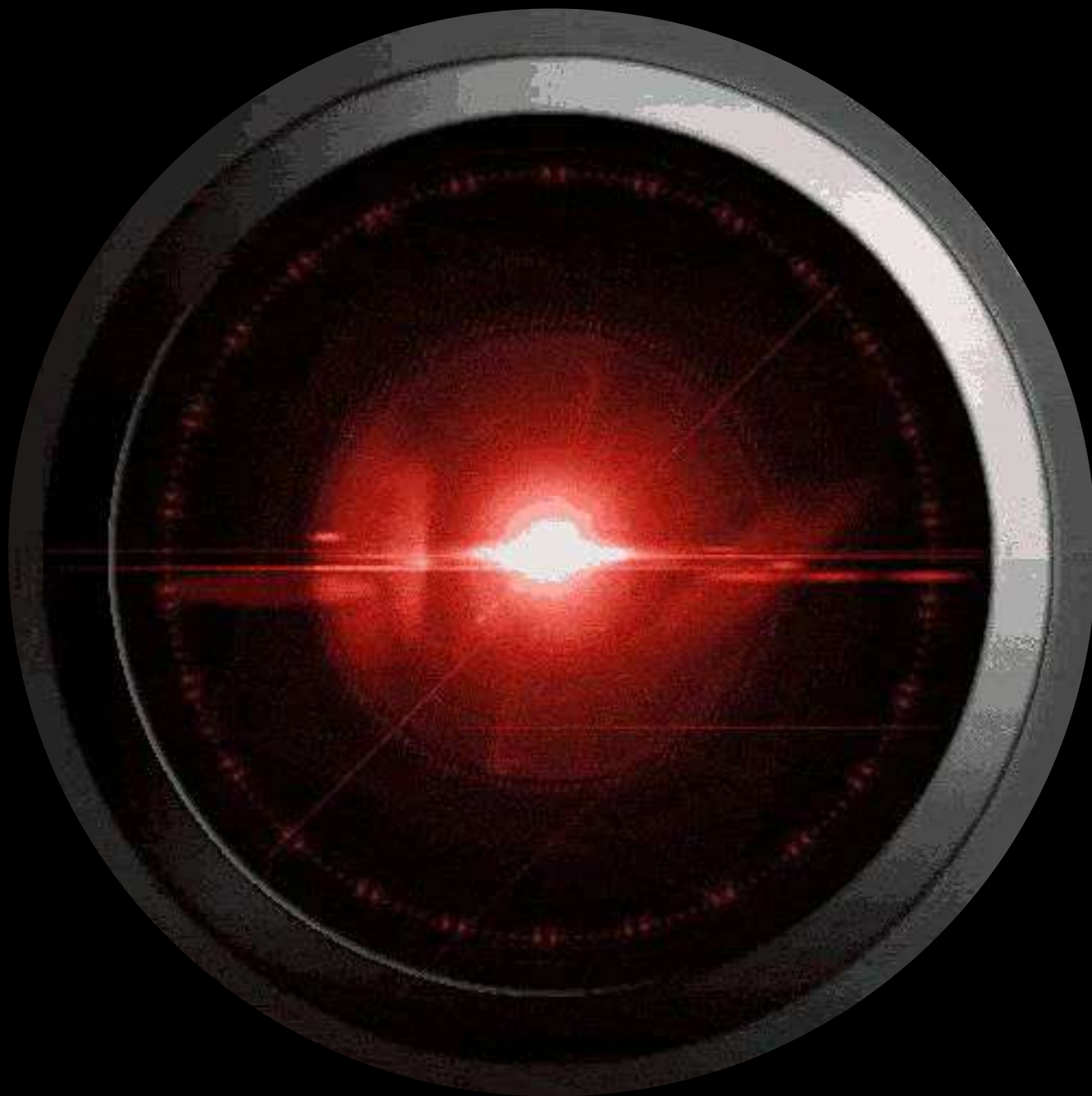Capable of performing any task a human being can do.

A.K.A. strong AI.

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Narrow AI

Designed for a specific and limited set of tasks.

A.K.A. weak AI.

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ChatGPT is a narrow AI.

HAL 9000 is a general AI.

Autonomous

A system that can perform a given set of tasks **without** human intervention.

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Self-driving cars are autonomous.

Bias

When a system makes a **prejudiced decision** based on underlying **assumptions**.

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A bias to show male construction workers.

Taken from datademia.com

Dataset

A **collection** of related data points, arranged in a given manner.

Also: **data set**

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Dataframe

A **table structure** with rows and columns where the data are organized.

Also: data frame

++

A dataframe of 8 rows and 9 columns

	1	2	3	4	6	5	7	8	9
	Product_id	Stall_no	Grade	Category	Demand	charges1	charges2	Max_Price	Selling_price
1	ABC	37	1	Fashion	10	376	11	4713	4185.95
2	DEF	38	0	Education	12	397	12	10352	9271.49
3	GHI	9	0	Technology	14	250	9	7309	6785.70
4	JKL	50	2	Fashion	15	144	13	20814	13028.92
5	MNO	7	0	Education	13	211	4	9261	906.55
6	PQR	23	1	Technology	20	633	6	6104	5631.25
7	STU	33	3	Fashion	10	263	13	5257	3874.26
8	VWX	4	0	Education	15	104	15	5921	4820.94

Data → plural
Datum → singular

✅ The data show...
✅ The data shows...

We mostly use data.
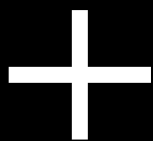
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Parameters and hyperparameters

Parameters are set by the **algorithm**. They make predictions.

Hyperparameters are set **manually**. They determine parameters.

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Hyperparameter tuning

What other common terms do you know about?

Common abbreviations in AI

Acronyms:

NASA, FOMO, GIF

→ Single word

Initialisms:

CIA, DVD, IT

→ Letter by letter

There's a difference!

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AI

Artificial Intelligence

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AI as a professional field
→ I work in AI.

AI as an entity
→ Siri is an AI that lives
in your iPhone.

AI

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ML

Machine **L**earning

++

DL

Deep Learning

++

Artificial Intelligence

Machine Learning

Deep Learning

ANN

Artificial

Neural

Network

++

CNN

Convolutional

Neural

Network

++

RNN

Recurrent

Neural

Network

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NLP

Natural

Language

Processing

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NLG

Natural

Language

Generation

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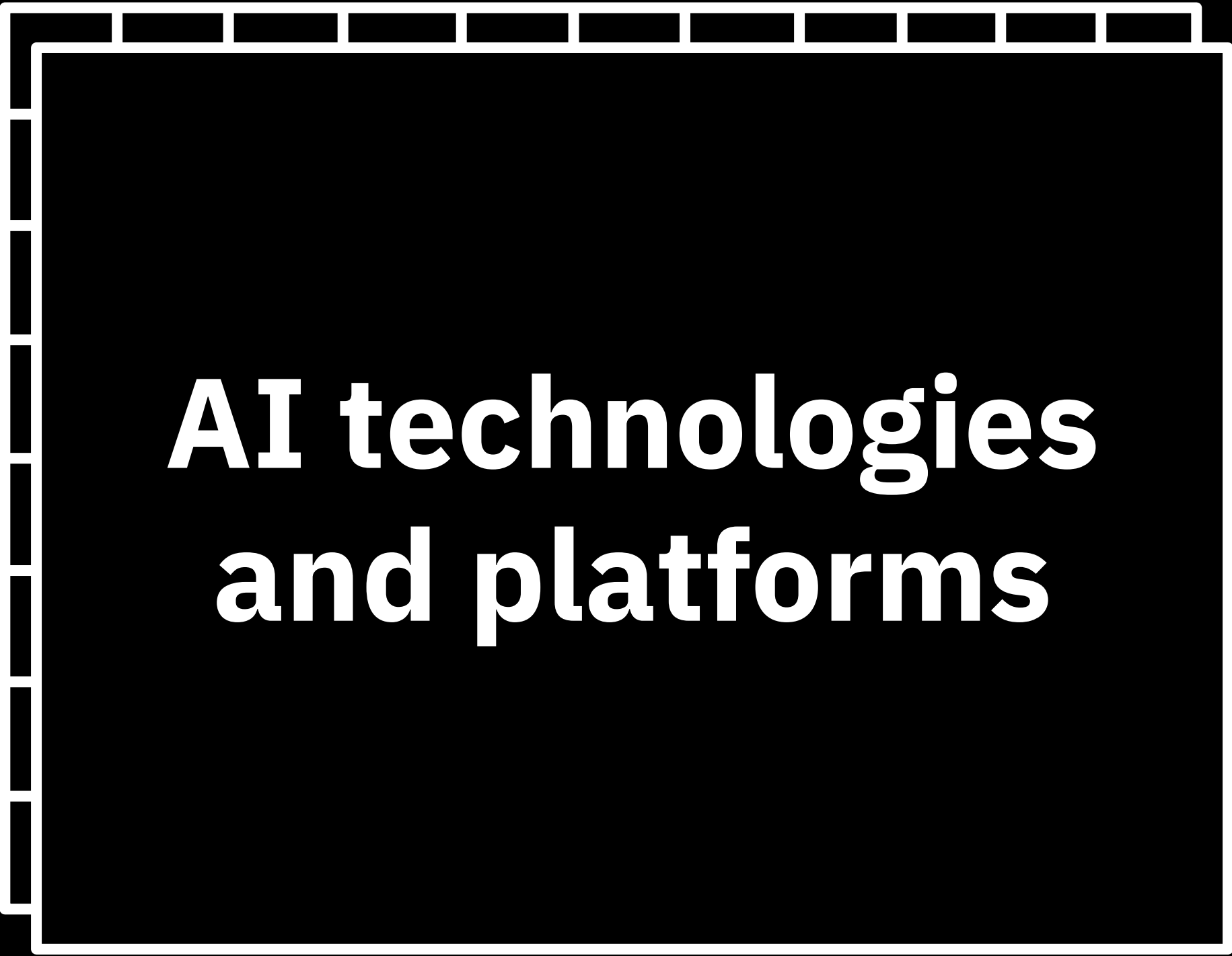
NLU

Natural

Language

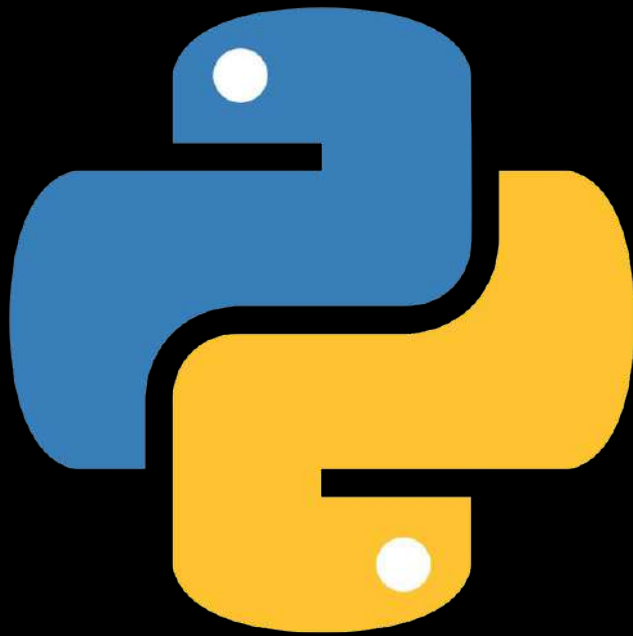**U**nderstanding

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What other abbreviations can you find?
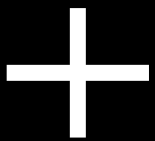
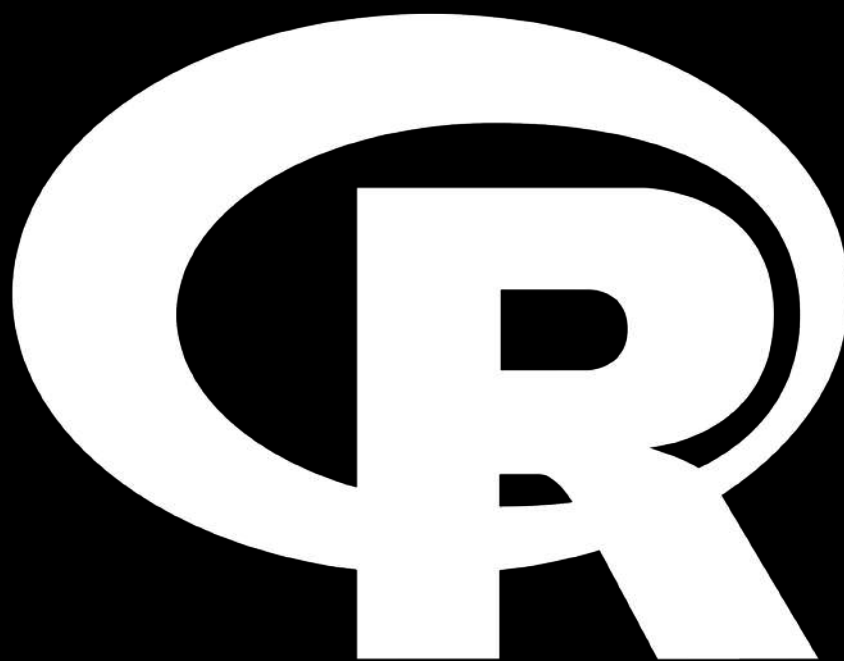# AI technologies and platforms

Programming languages
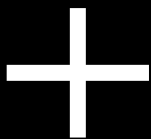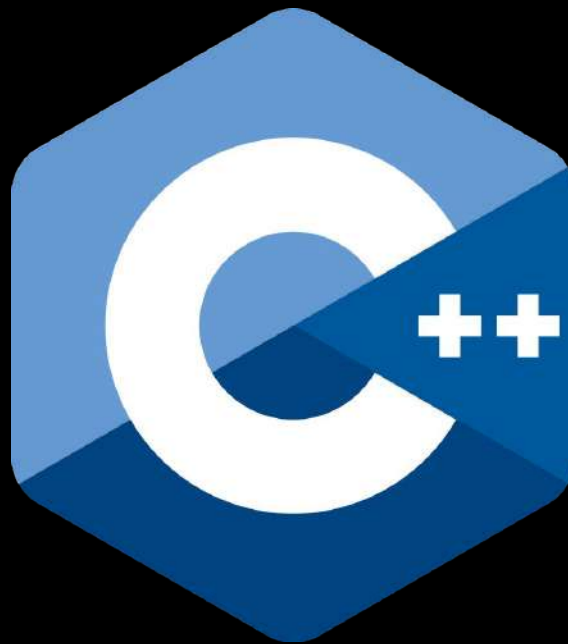
Python

The #1 language
for AI.

SQL

Standard Query Language
for database management

R

Preferred for statistical computing.

C++
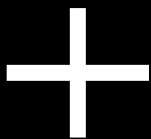
A general purpose language that can adapt to AI.

Java

It supports robust, high performance applications.
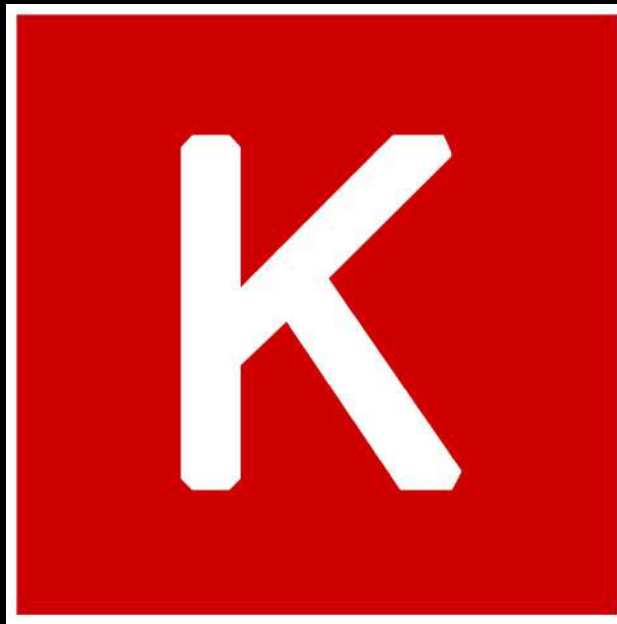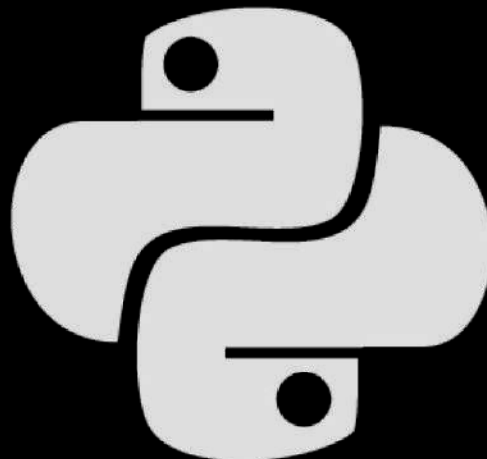
Libraries

TensorFlow

A library for building and training models across a range of tasks.

Keras

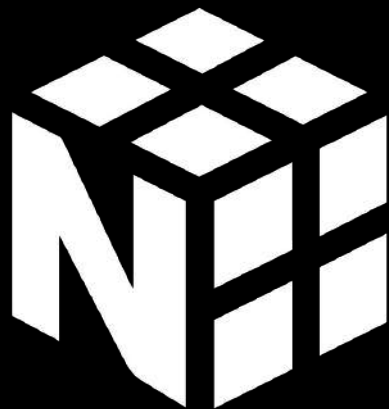It provides a Python interface for neural networks.

NLTK

NLTK

Natural Language Toolkit
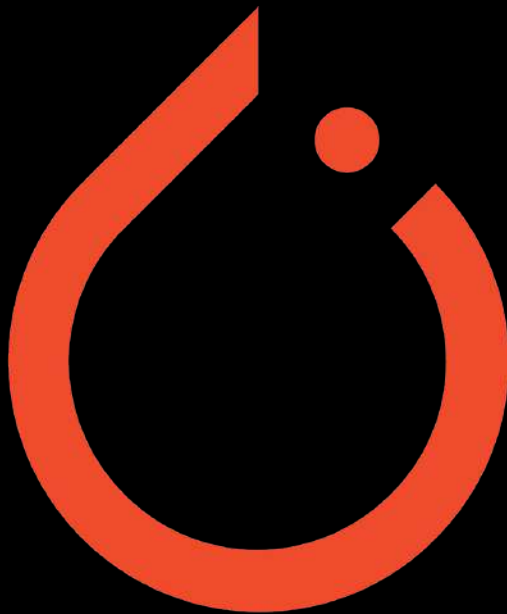A suite of libraries for NLP
using Python.

NumPy

NumPy

A Python library for mathematical processing with arrays and matrices.

PyTorch

An ML framework for computer vision and NLP.

scikit-learn

A Python library for predictive analysis.

Hugging Face

A platform to share ML models and datasets.

Models

Stable Diffusion

An open-source model for generating realistic images.

"An astronaut riding a horse on Mars"

DALL-E

Another text-to-image model for image generation.

Current version: DALL-E 2
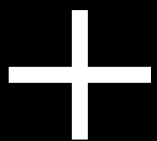
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DALL-E

GPT-3

Given a text prompt, it produces text that continues the prompt.

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ChatGPT

A chatbot based on GPT-3 that interacts in a conversational way.

+ +

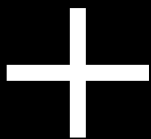# What technologies do you see yourself using the most?

Professional roles in the AI industry

Business oriented

Data Scientist

They build models that use data to make decisions and generate predictions.

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Data Analyst

They collect, analyze and present data to identify trends and make business decisions.

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Data Engineer

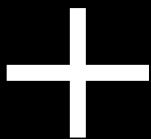They create and maintain the infrastructure for extracting and organizing data.

++

ML Engineer

They design and scale AI models to solve business challenges.

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AI Product Manager

They build and improve products using AI.
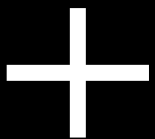
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Research oriented

AI Researcher

They investigate new ways of using AI to solve real world problems.

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Cognitive Scientist

They research the human mind and the brain to find out how we think and learn.

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In which role do you see yourself working?

Allegories and useful expressions

If I **were** a data analyst, I **would** help my company make decisions.
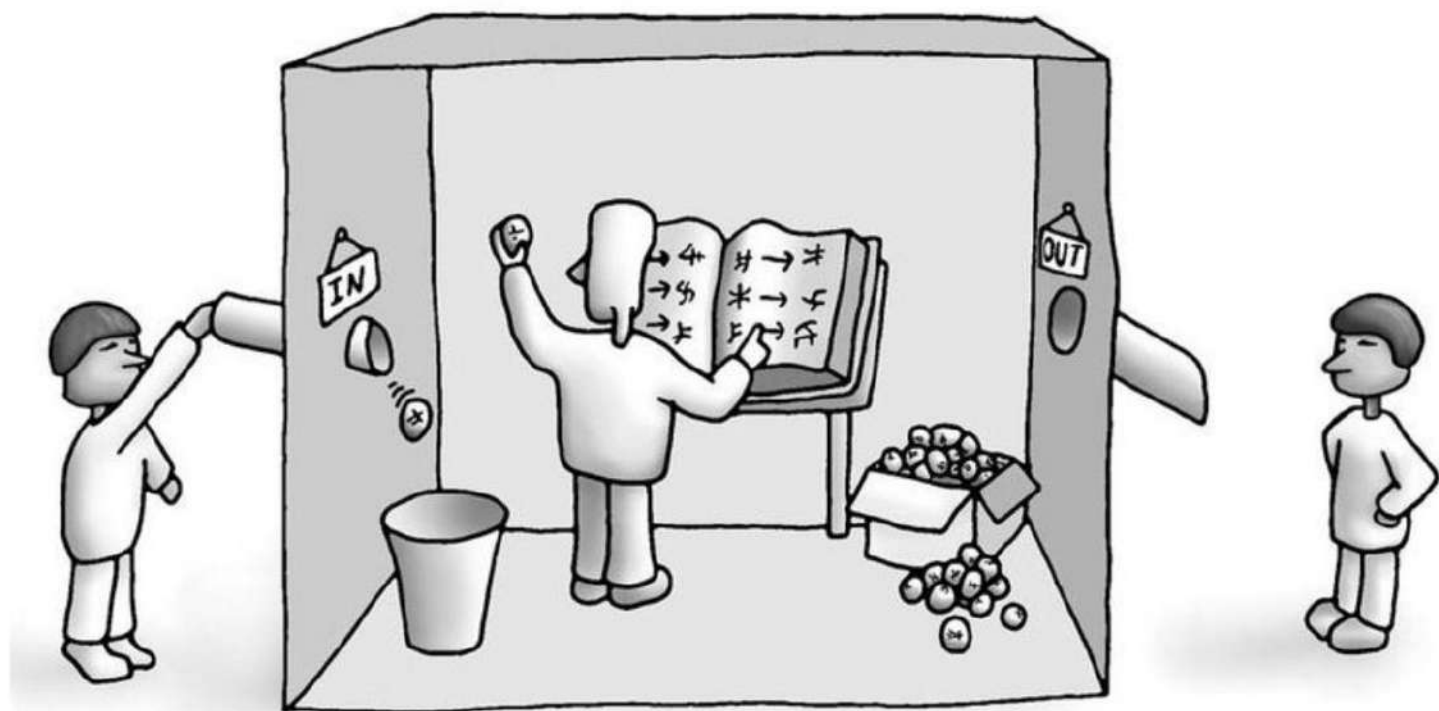
Second Conditional

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The Turing Test

If ChatGPT **passed** the Turing Test, **would** it mean it's conscious?

The Turing Test

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The Chinese Room

If Google **could** translate any language, **would** that mean it actually understands the language?
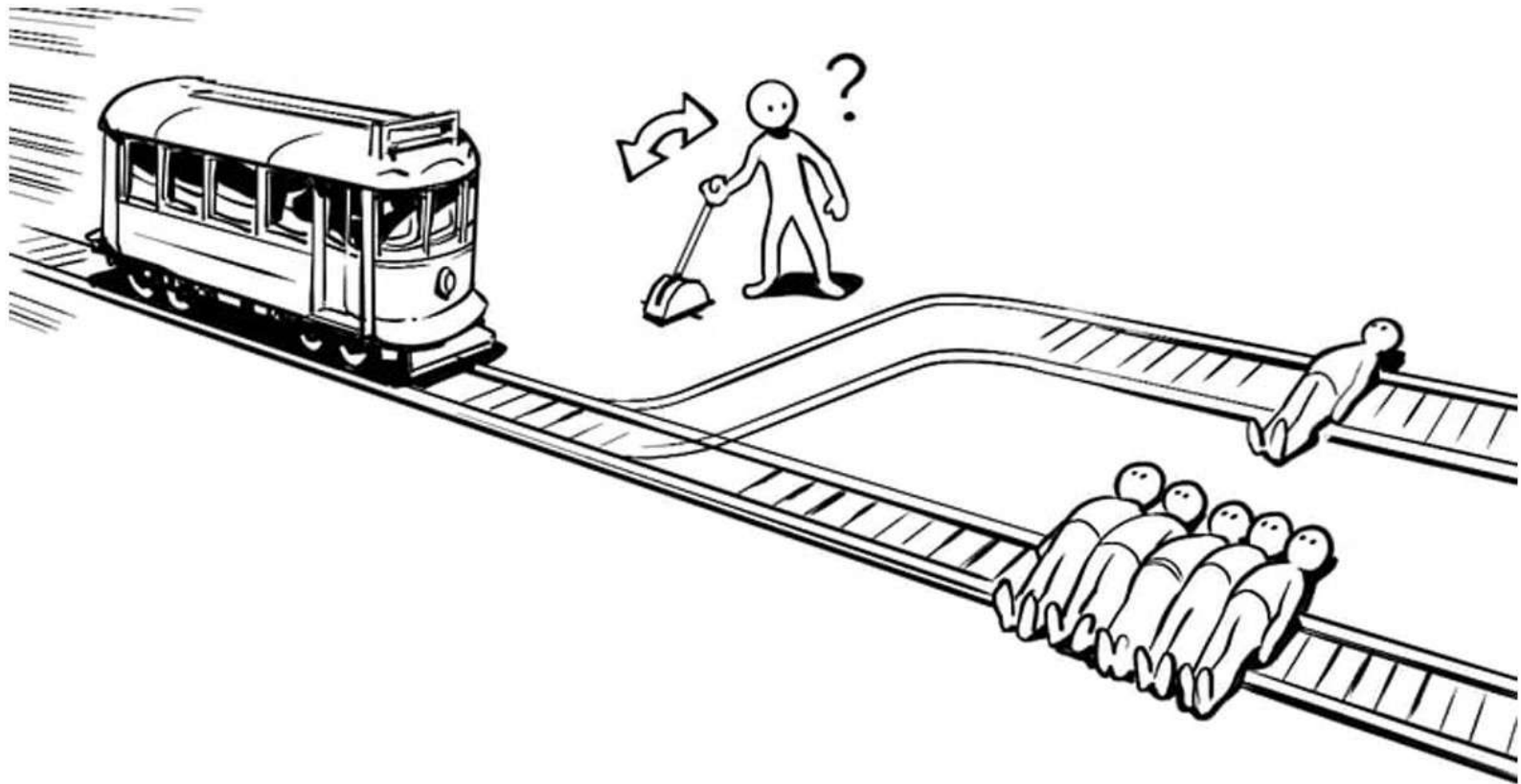
The Chinese Room

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Occam's Razor

If you **were** in a moral dilemma, **would** Occam's Razor apply?
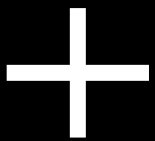
Occam's Razor

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The Trolley Problem

If you **were** in a situation like this, who **would** you save?

The Trolley Problem

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Let's experiment with the Trolley Problem

Write ChatGPT prompts to practice English

ChatGPT disrupted 2022

- 1 million active users in week 1.
- Trending topic in social media.
- $10 billion contract between Microsoft and Open AI.
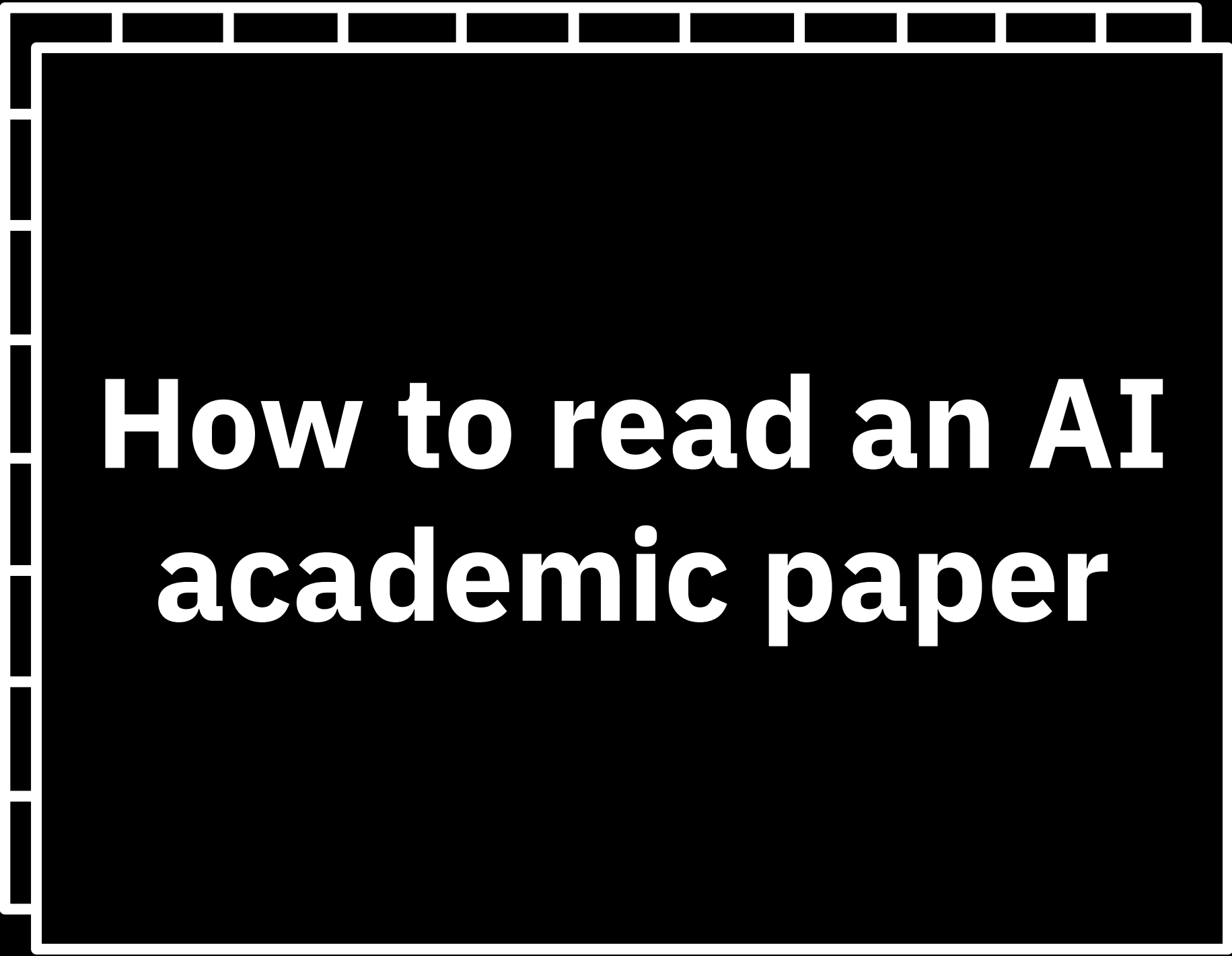
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Practicing English with ChatGPT

1. Practice vocabulary.

2. Practice your reading with a story.

3. Correct a text.

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A good prompt:

- Provides context.
- Includes information and examples.
- Is precise about:
  - Word choice.
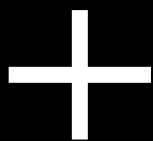 - Output length.

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Let's practice!

- Think of a task for ChatGPT.
- Write a prompt and optimize it.
- Share your prompt and ChatGPT's final output.
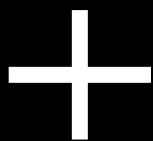
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How to read an AI
academic paper

Academic papers are the way to find out the newest developments in AI.

Know the structure

1. Abstract
2. Introduction
3. Method
4. Results
5. Discussion
6. Conclusion
7. References

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Reading and writing skills are connected.

You're ready to dive into the AI world!

You learned:

- The main vocabulary you will need to work in AI.
- What professional roles there are in AI industry.
- How to interact with AI systems in English.

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Congratulations!