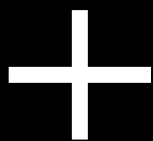


English Course to **Work with** **Artificial** **Intelligence Tools**

Renzo Cuadra



**What's all the
hype about?**

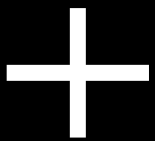


The number of AI
startups **has grown**
14X since 2000.
(Crunchbase)

100 million people
employed in AI by
2025.

(World Economic Forum)

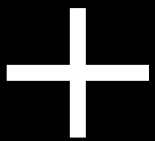
**If you want to
be one of those
people, you
need to learn
English.**



- Most AI companies use **English** as their **main language**.
- Most academic **papers** in the field are **written in English**.

- Most **technologies** you will use in the AI field are **English based**.
- Most natural language **developments** and tools are English based.

**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.

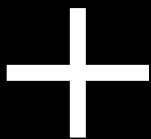
Your project:

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



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.

Narrow AI

Designed for a specific
and limited set of tasks.

A.K.A. weak AI.

**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.

Self-driving cars are autonomous.



Bias

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

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**

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

1
2
3
4
5
6
7
8

Data → plural
Datum → singular



The data show...



The data
shows...

We mostly use data.

Parameters and hyperparameters

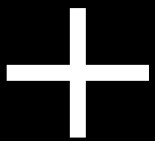
Parameters are set by the **algorithm**. They make predictions.

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

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!

AI

**Artificial
Intelligence**

++

AI as a professional field

→ I work in AI.

AI as an entity

→ Siri is an AI that lives
in your iPhone.

AI

ML

**Machine
Learning**

++

DL

**Deep
Learning**

++



A Venn diagram consisting of three concentric circles. The outermost circle is labeled 'Artificial Intelligence'. Inside it is a circle labeled 'Machine Learning'. Inside that is the innermost circle labeled 'Deep Learning'. This illustrates that Deep Learning is a subset of Machine Learning, which is a subset of Artificial Intelligence.

Artificial
Intelligence

Machine
Learning

Deep
Learning

ANN

**Artificial
Neural
Network**

++

CNN

**Convolutional
Neural
Network**

++

RNN

**Recurrent
Neural
Network**

++

NLP

**Natural
Language
Processing**

++

NLG

**Natural
Language
Generation**

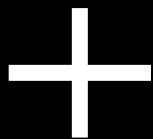
++

NLU

**Natural
Language
Understanding**

++

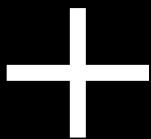
**What other
abbreviations
can you find?**





AI technologies and platforms

Programming languages



Python



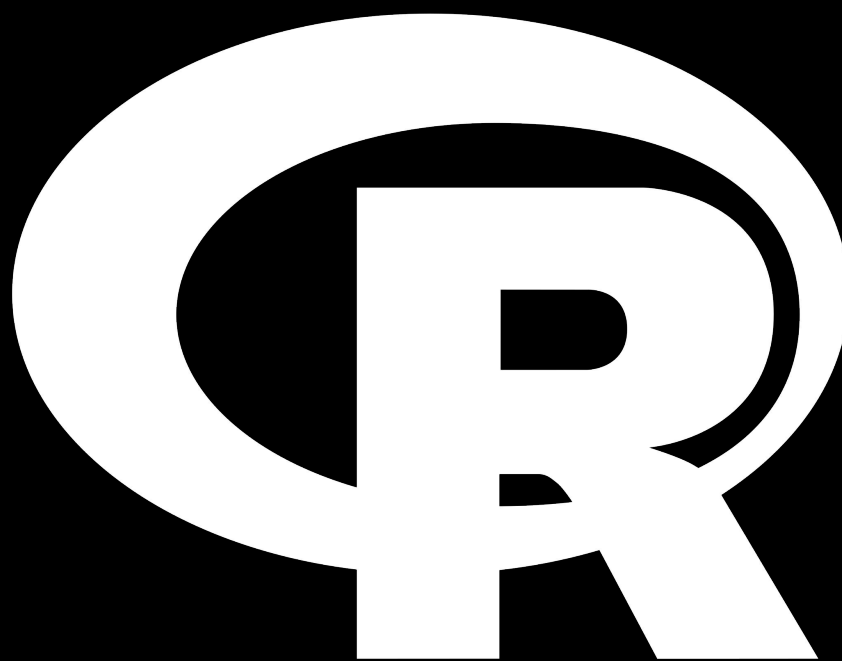
The #1 language
for AI.

SQL



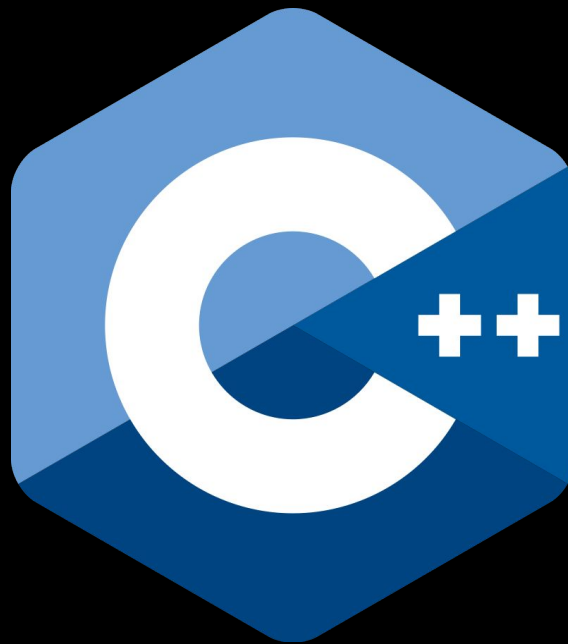
Standard Query Language
for database management

R



Preferred for statistical
computing.

C++



A general purpose language
that can adapt to AI.

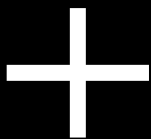
Java



It supports robust, high performance applications.



Libraries

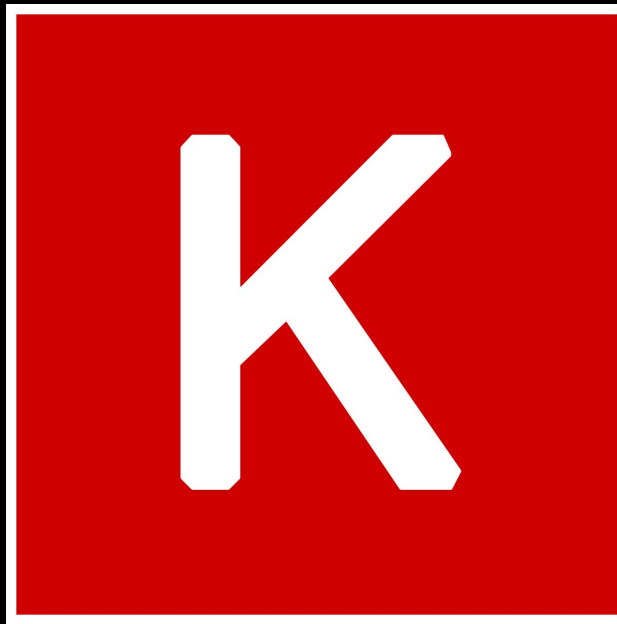


TensorFlow



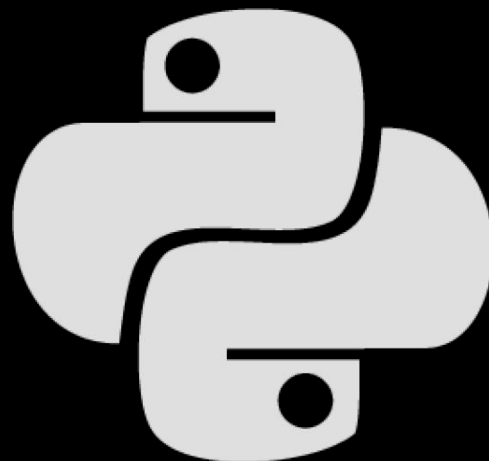
A library for building and training models across a range of tasks.

Keras



It provides a Python interface
for neural networks.

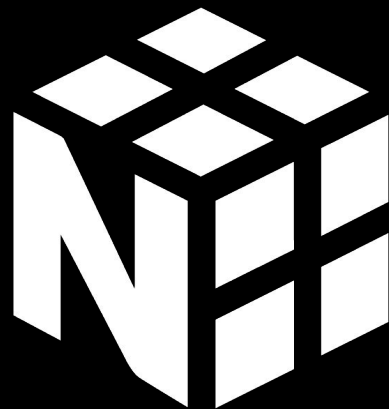
NLTK



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



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

DALL-E



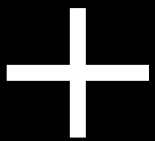
GPT-3

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

ChatGPT

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

**What
technologies do
you see yourself
using the most?**

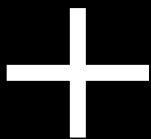




Professional roles in the AI industry



**Business
oriented**



Data Scientist

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

Data Analyst

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

Data Engineer

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

ML Engineer

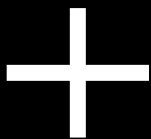
They design and scale
AI models to solve
business challenges.

AI Product Manager

They build and
improve products
using AI.



**Research
oriented**



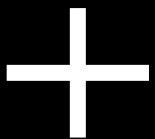
AI Researcher

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

Cognitive Scientist

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

**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

++

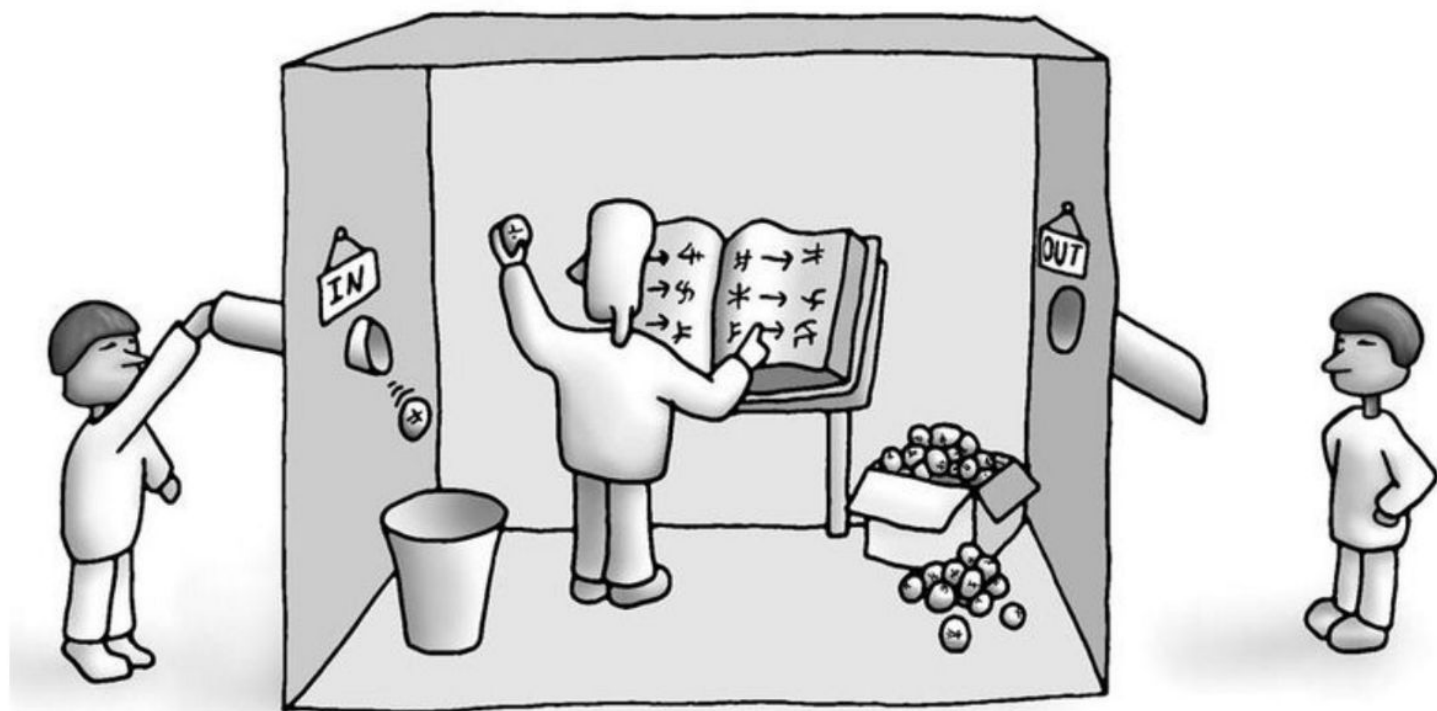
The Turing Test



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

The Turing Test

The Chinese Room



If Google could
translate any
language, would that
mean it actually
understands the
language?

The Chinese Room

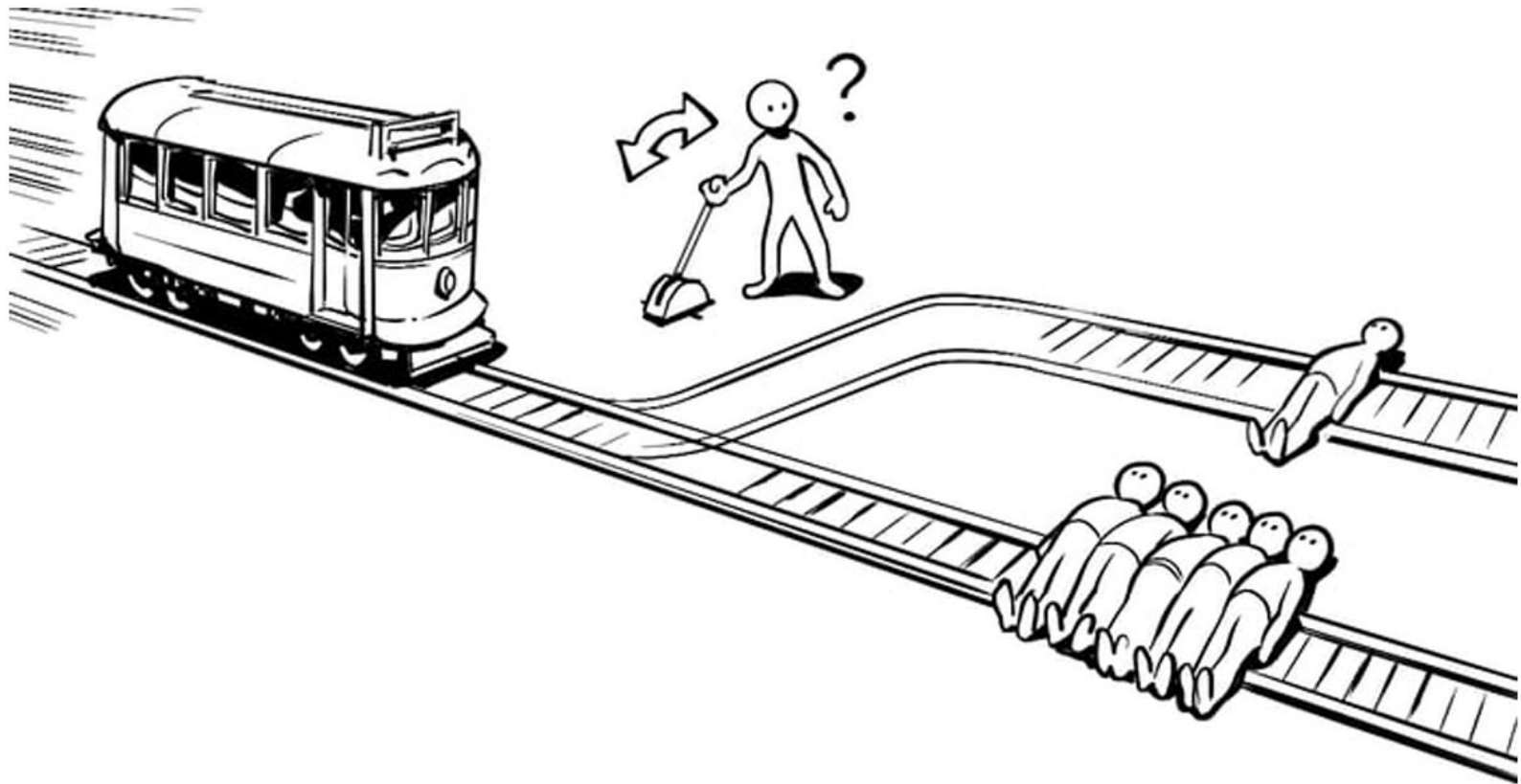
Occam's Razor



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

Occam's Razor

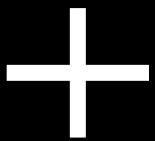
The Trolley Problem



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

The Trolley Problem

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.

Practicing English with ChatGPT

1. Practice vocabulary.
2. Practice your reading
with a story.
3. Correct a text.

A good prompt:

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

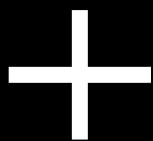
Let's practice!

- Think of a task for ChatGPT.
- Write a prompt and optimize it.
- Share your prompt and ChatGPT's final output.



How to read an AI academic paper

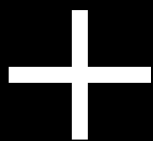
**Academic papers
are the way to find
out the newest
developments in
AI.**




Know the structure

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

**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.



Congratulations!