

Dear wizards

Welcome to SOAI AI Camp!



SOAI AI Camp

“An **internal** event featuring a series of **workshops** designed to provide **you** with a comprehensive introduction to Artificial Intelligence. The **camp** covers main AI fundamental concepts and **practical** aspects, making it the **perfect** opportunity to kick start your **journey** !”



SOAI AI Camp Tracks

Shared Track (Basics, Machine Learning, Deep Learning)



**Natural Language
Processing**



**Computer
Vision**



**Reinforcement
Learning**



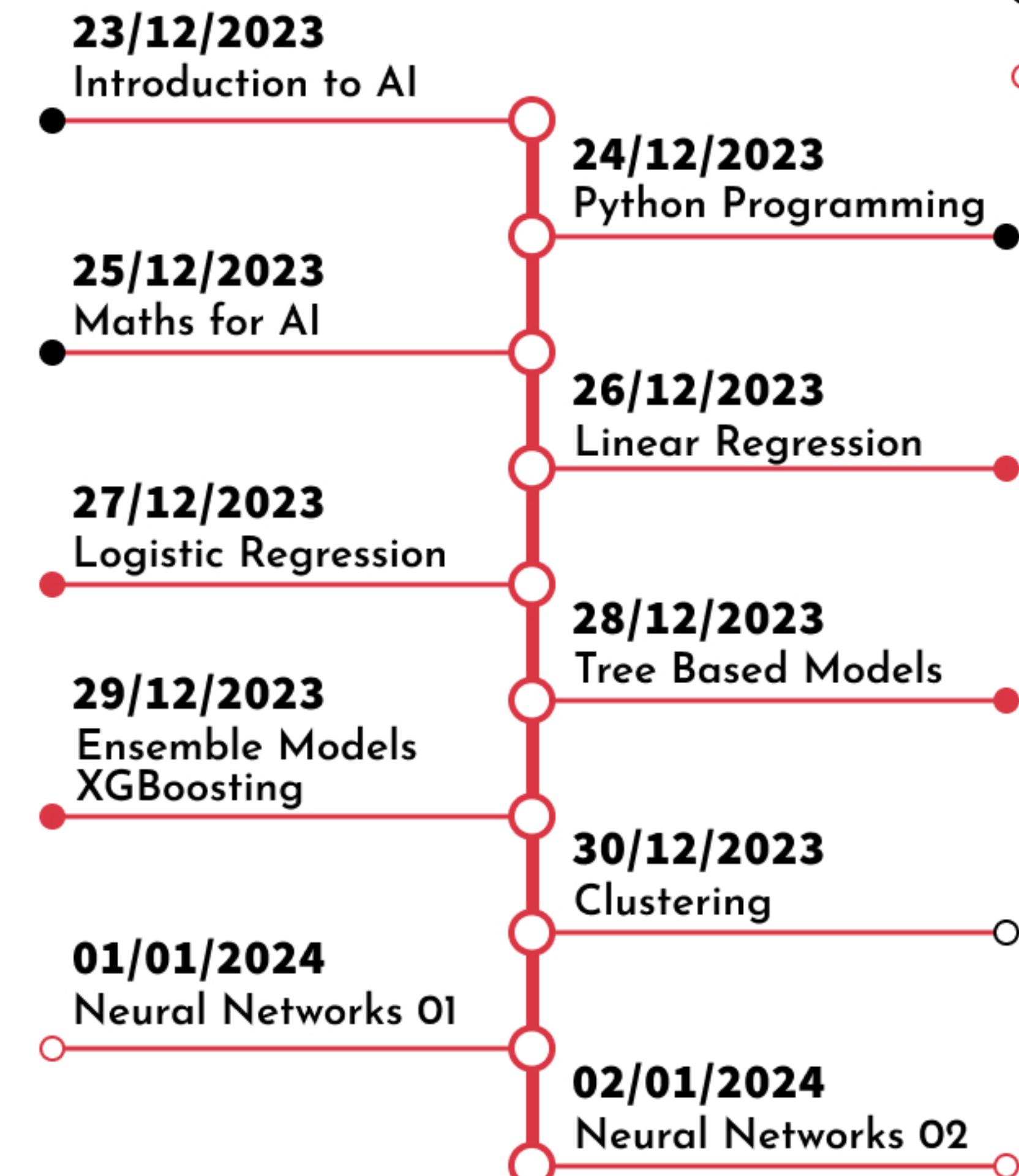


AI Camp

Shared Track

Live on Google
Meet at 20:00

Agenda



What's Artificial Intelligence ?

Artificial Intelligence

AI is the **science** and **art** of making
computers **smart!**

Artificial Intelligence

Science

**Mathematical
Fundamentals**

**Computer
Engineering**

Artificial Intelligence

Art

- Solving world most **complicated** problems
- Human **intelligence** expansion
- An **innovation's** collaborative machine

Why Artificial Intelligence now?

Artificial Intelligence

AI is thriving in the era of **data** and **high computational resources** availability

Data: AI fuel

Tabular Data

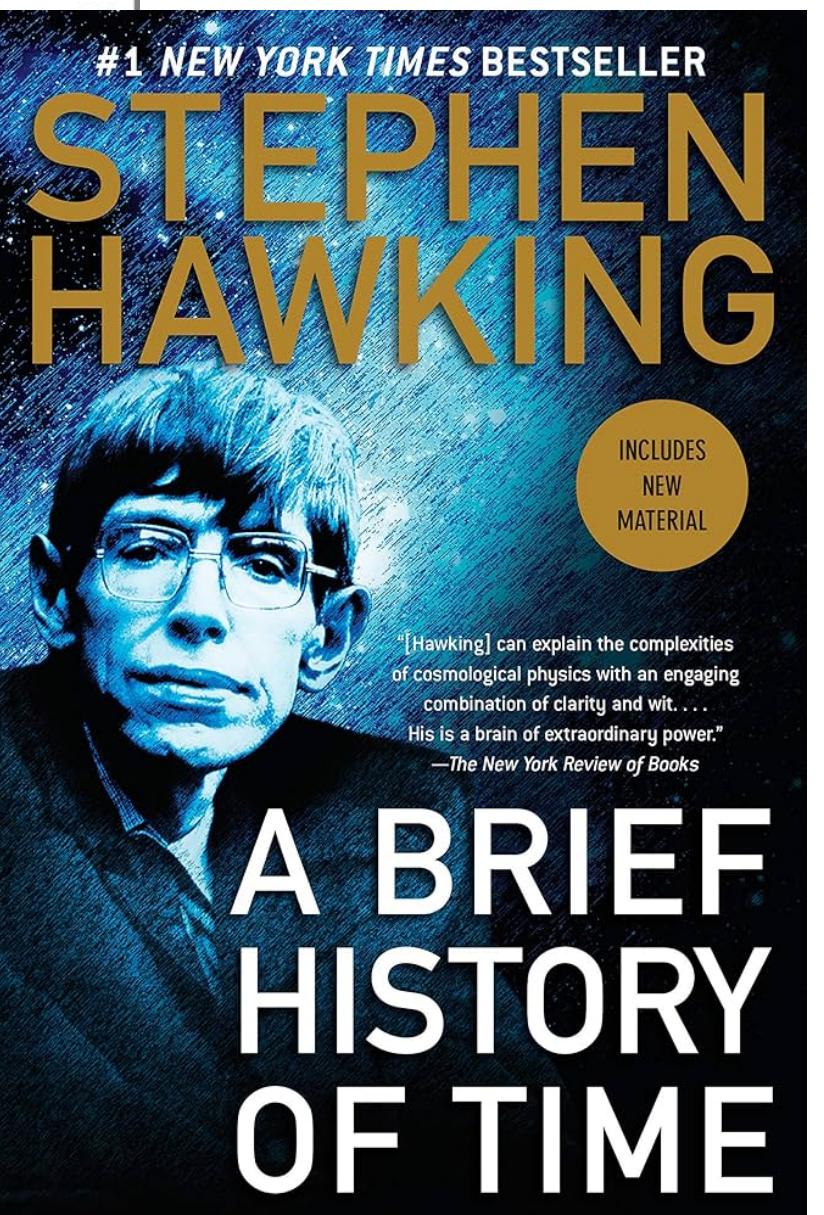
age (n)	job (c)	marital (c)	education (c)	balance (n)	housing (c)
0	30	unemployed	married	primary	1787
1	33	services	married	secondary	4789
2	35	management	single	tertiary	1350
3	30	management	married	tertiary	1476
4	59	blue-collar	married	secondary	0
5	35	management	single	tertiary	747

Visual Data



Data

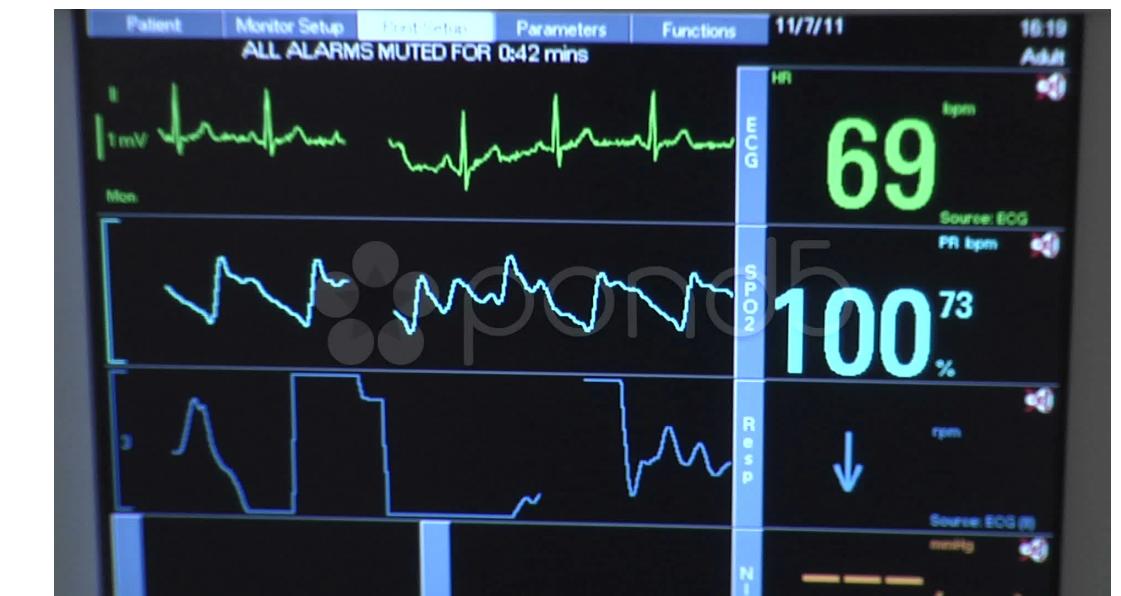
Textual Data



Interactively generated data



Time Series



Artificial Intelligence

development workflow

AI development workflow

- 1. Problem Statement**
- 2. Data Collection**
- 3. Data Pre-processing**
- 4. Data Modelling (AI)**
- 5. Testing & Validation**
- 6. Deployment**

Data analysis

Data Science

Artificial Intelligence

Machine Learning

Deep Learning

What is What

Machine Learning

Machine Learning: **Supervised Learning**

The process of **identifying** the
pattern in the **data** given both
features and **true labels**

Machine Learning: **Supervised Learning**

Regression problem

How **much** does this car **costs**?

Classification problem

Does the patient have diabetes?

Which animal appears in this picture?

Machine Learning: Unsupervised Learning

**The process of identifying the
pattern in the data given
features only!**

Machine Learning: Unsupervised Learning

Clustering problem

Store customers analysis

Anomaly detection

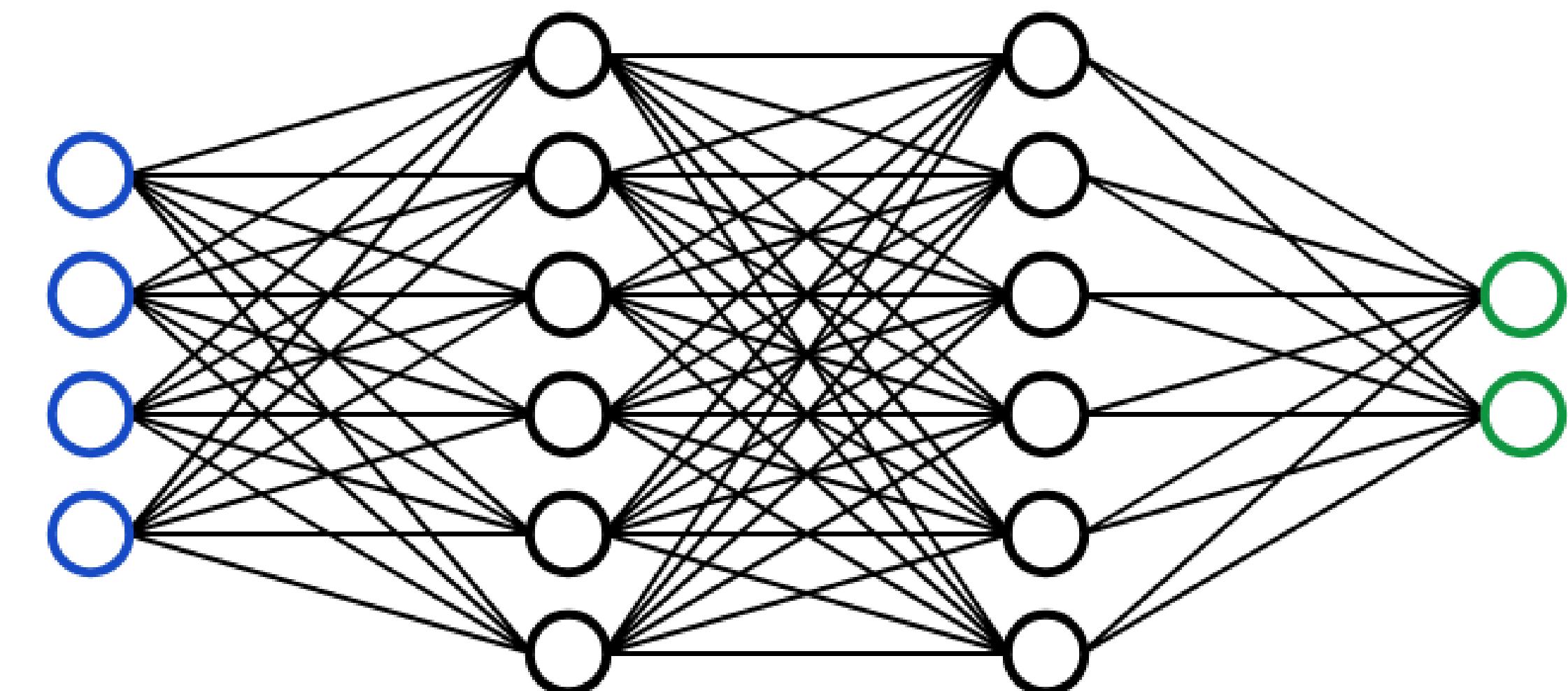
Does this financial transaction look suspicious?

Deep Learning

Deep Learning

Inspired by the **brain**, within the
realm of **big** data and powerful
hardware, AI can tackle much
complicated problems!

Neural Networks

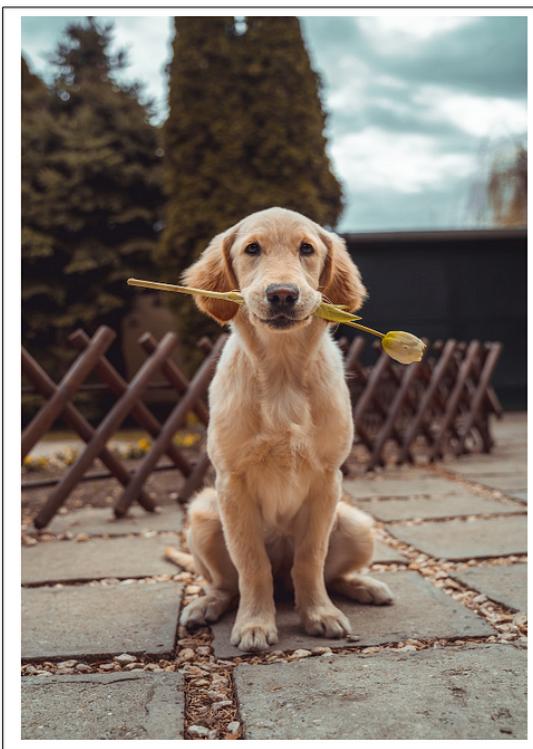


Computer Vision

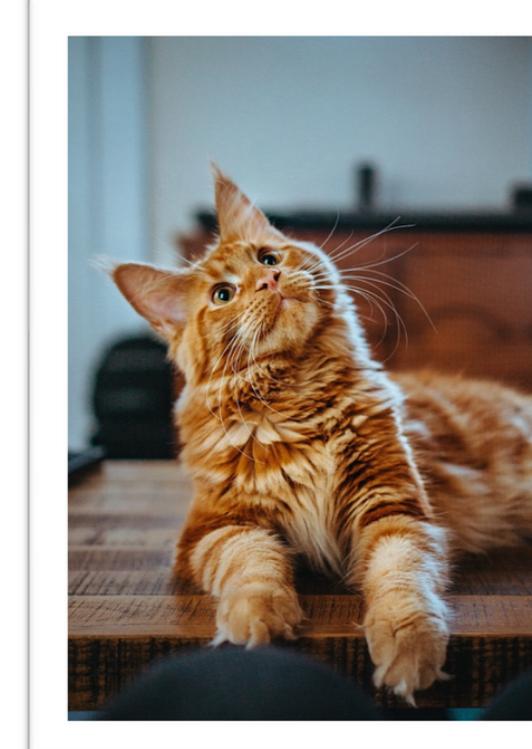
Computer Vision

AI **capability** to process **visual** data,
an AI that can **see** the **world!**

Image classification



VS



Dog

Cat

Object detection

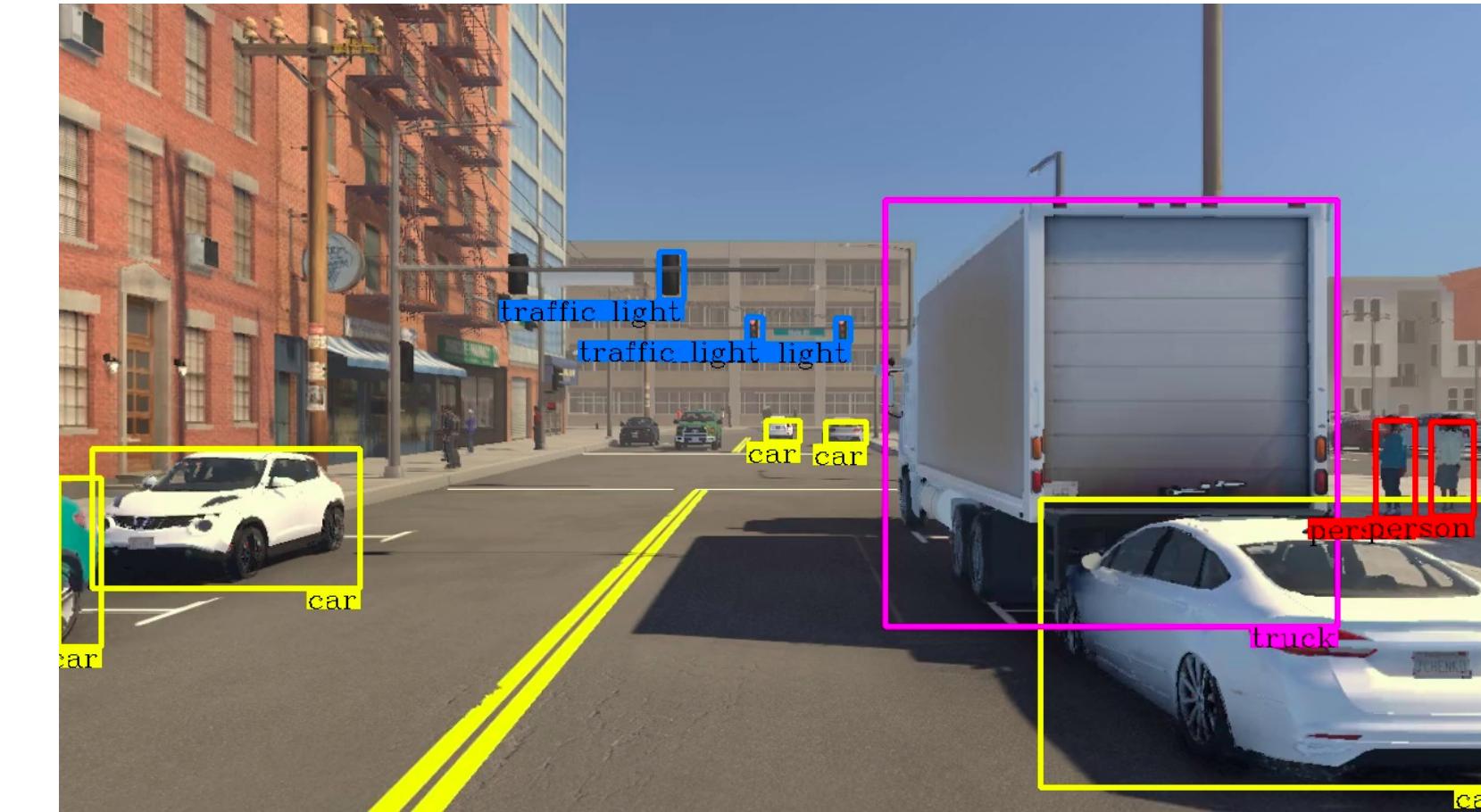
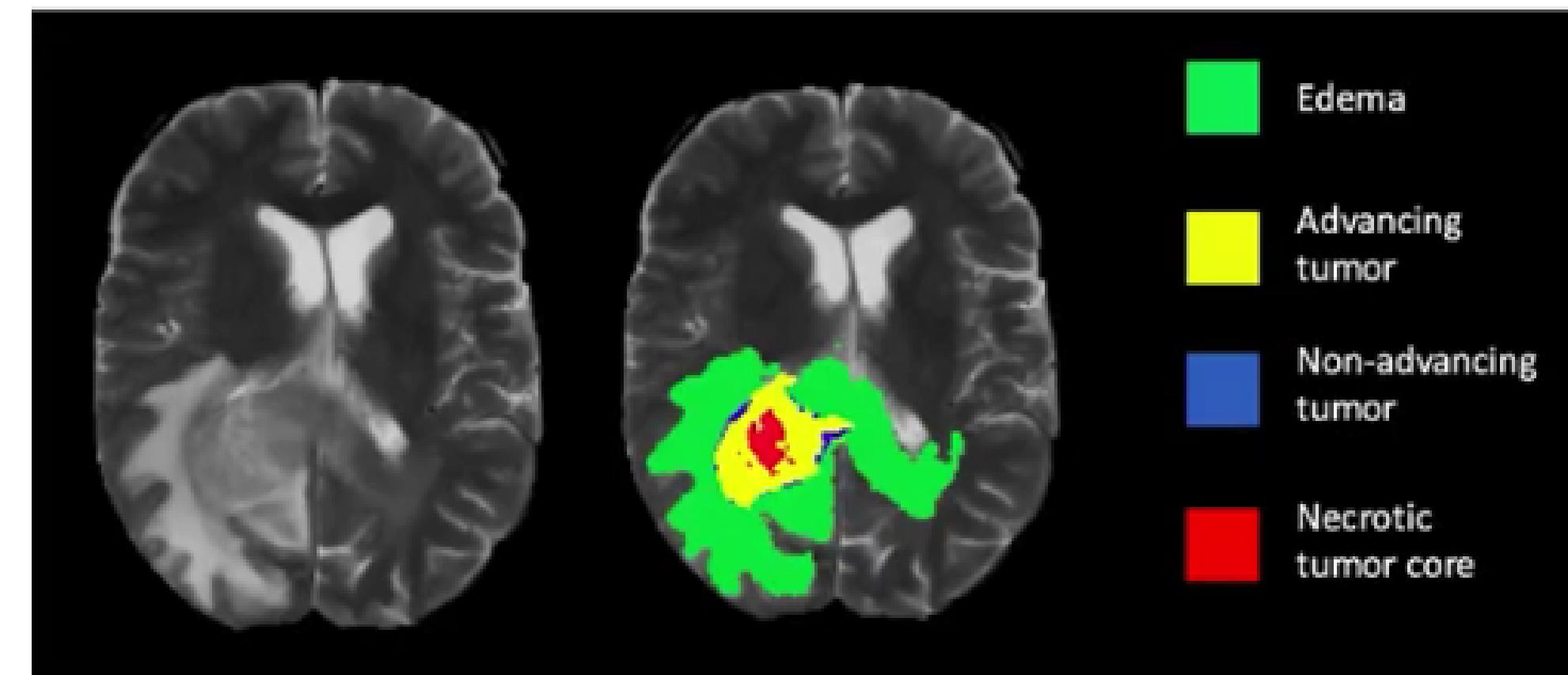


Image segmentation

Computer Vision

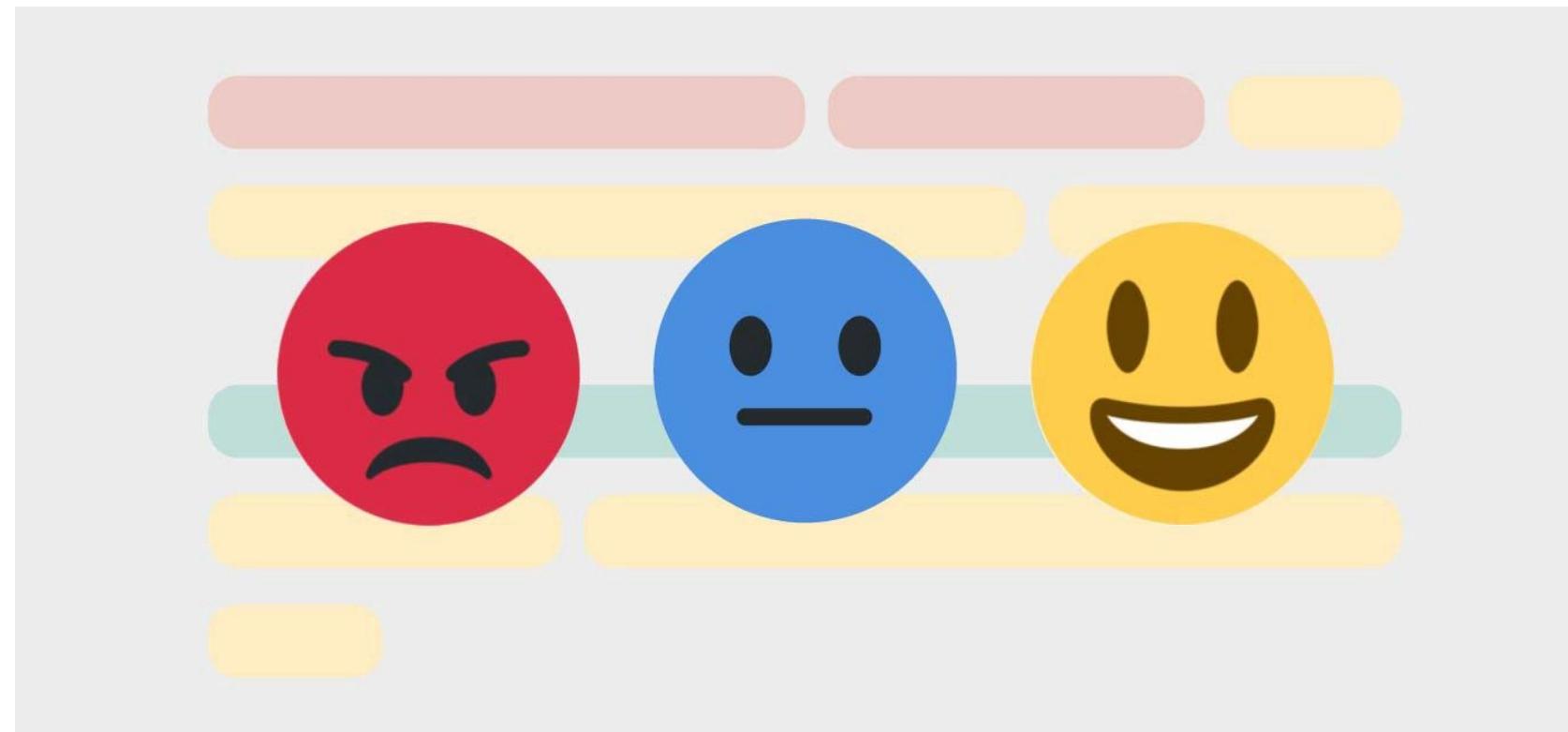


Natural Language Processing

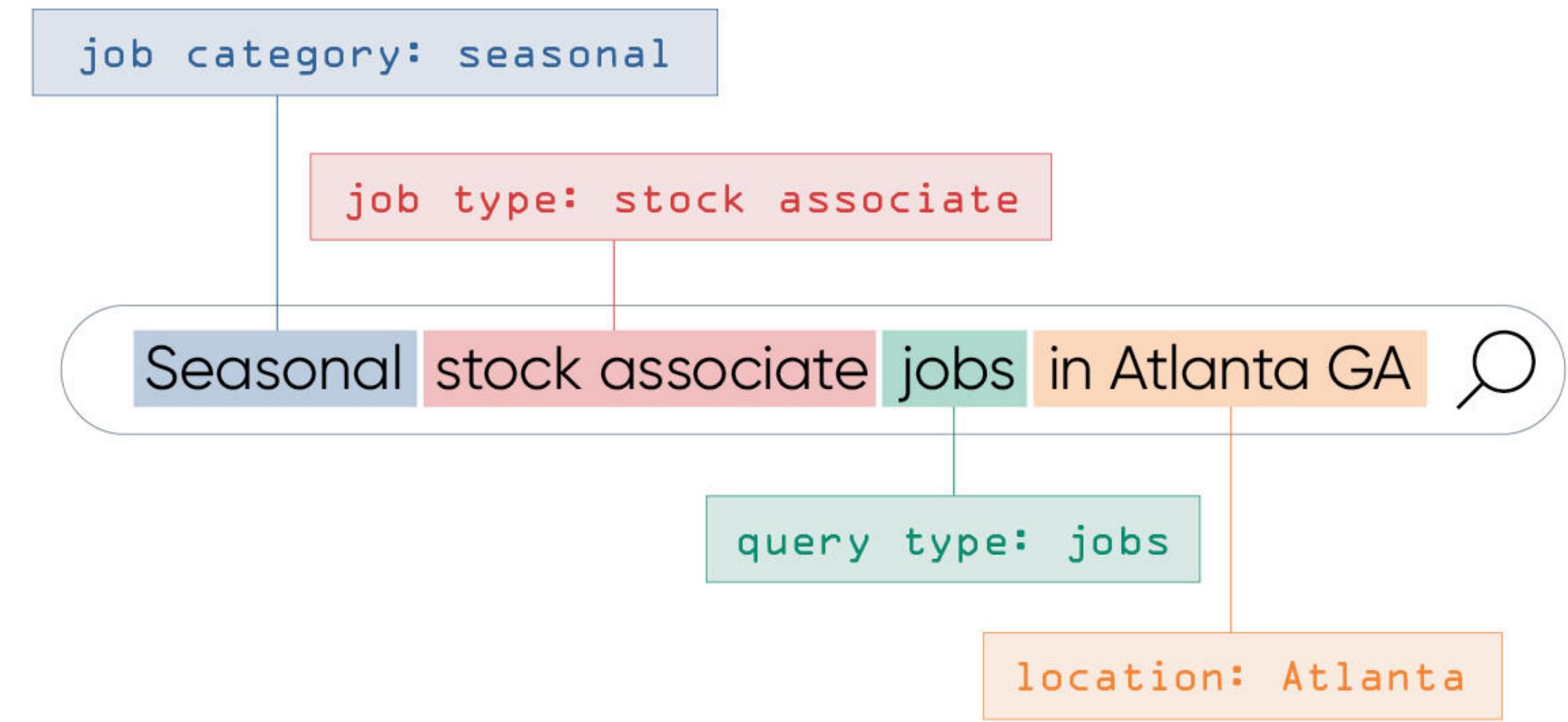
Natural Language Processing

AI **capability** to understand
language, an AI that can **understand**
the **human beings!**

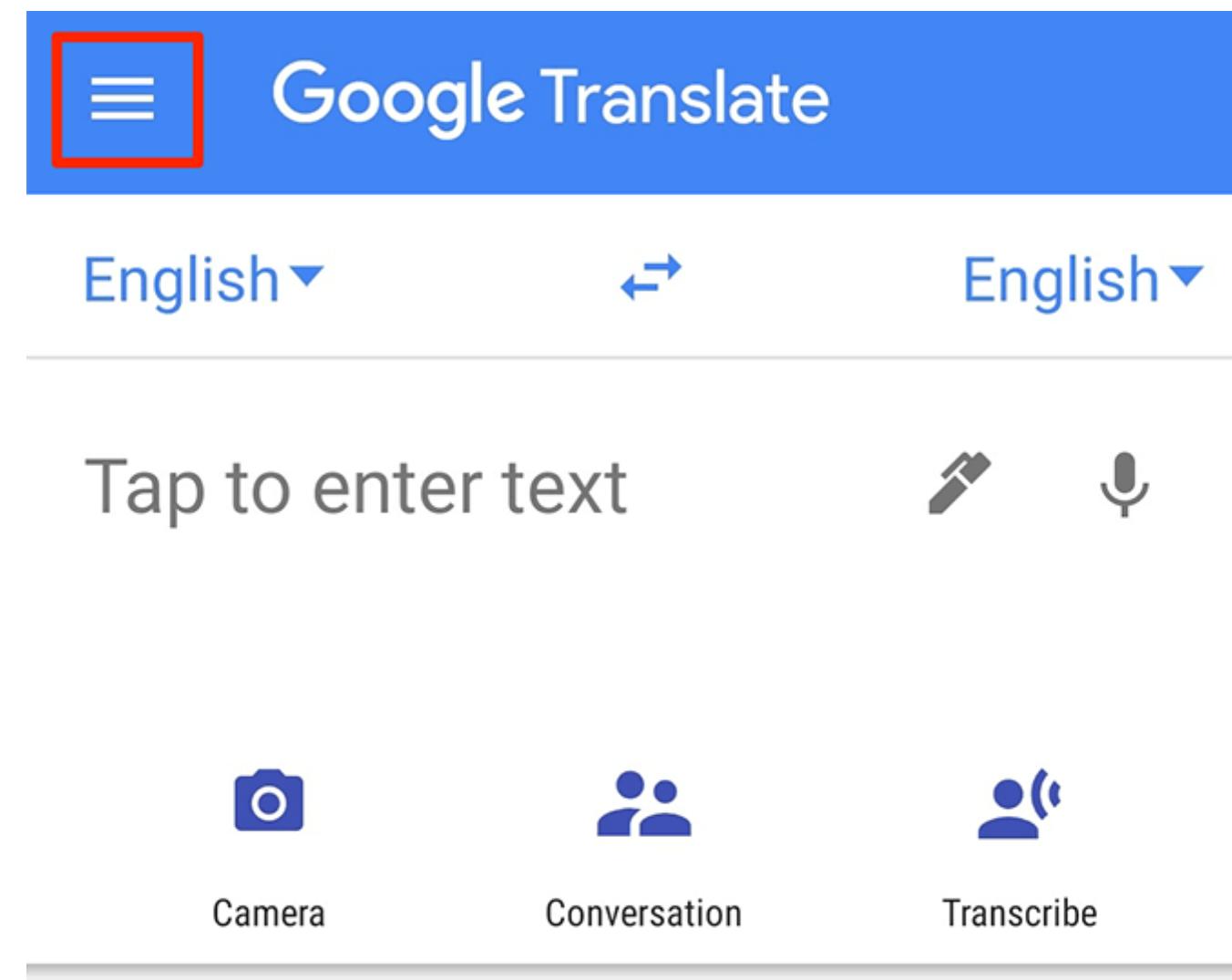
Sentiment Analysis



Named Entity Recognition



Translation Machine



Natural Language Processing

Generative AI

Generative AI

AI **capability** to generate new data
whether its text, images, music... an
AI that can **be creative!**

Chatbots

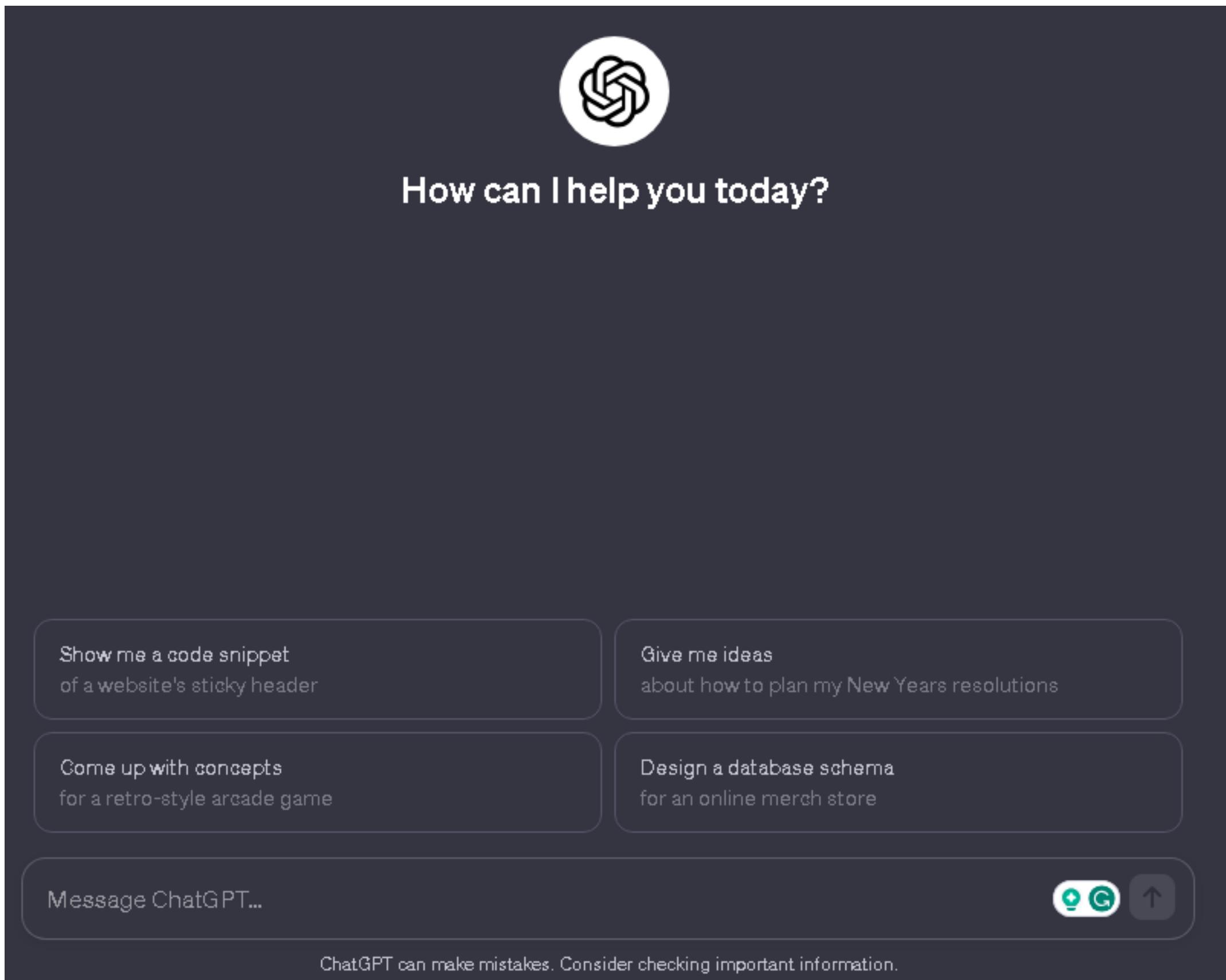


Image Generation



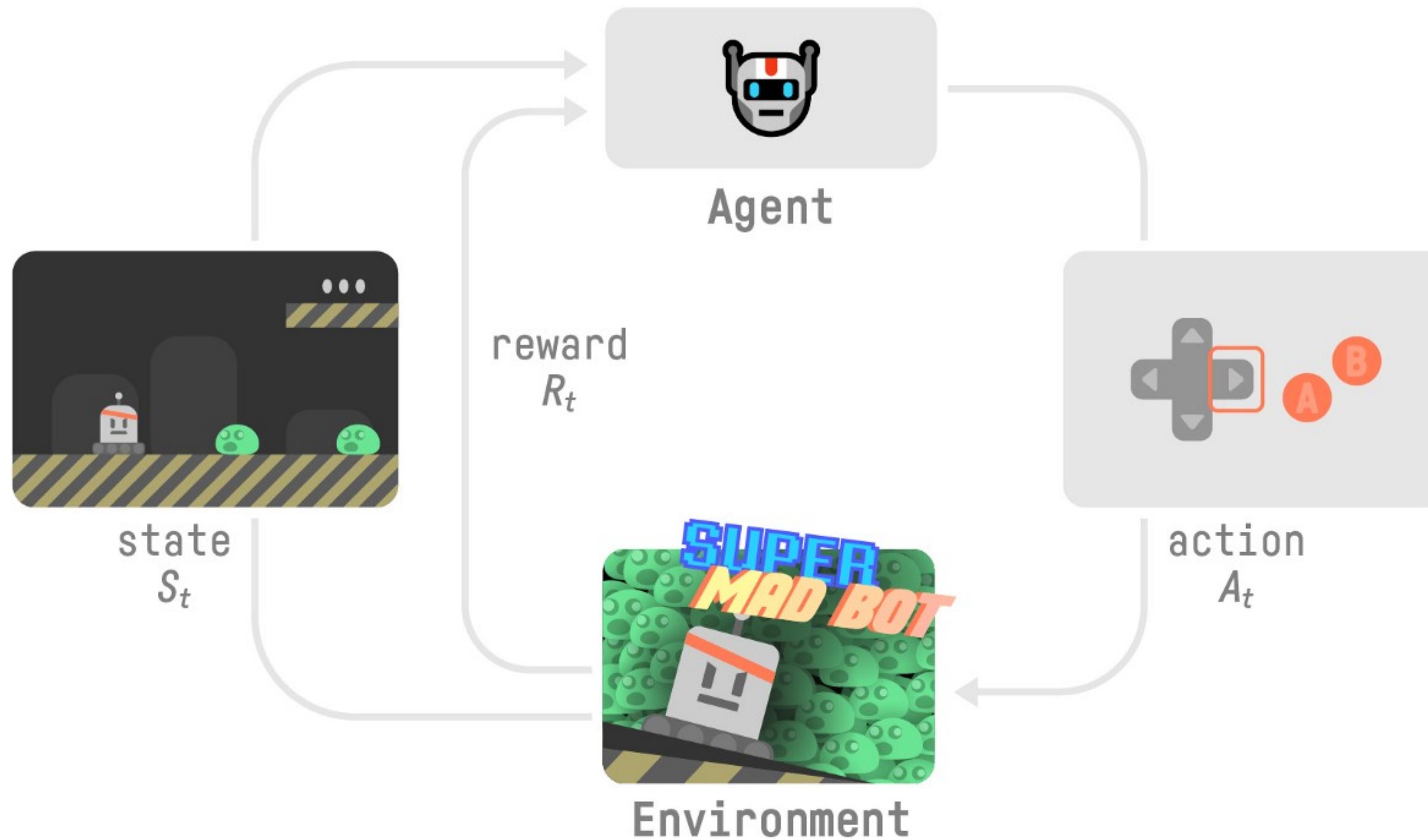
Generative AI

Reinforcement Learning

Reinforcement Learning

AI **capability** to learn from **trial** and
error, an AI that can play games
surpassing human **level!**

Reinforcement Learning



Any questions?

Thank you for your attention!

