



Understanding AI

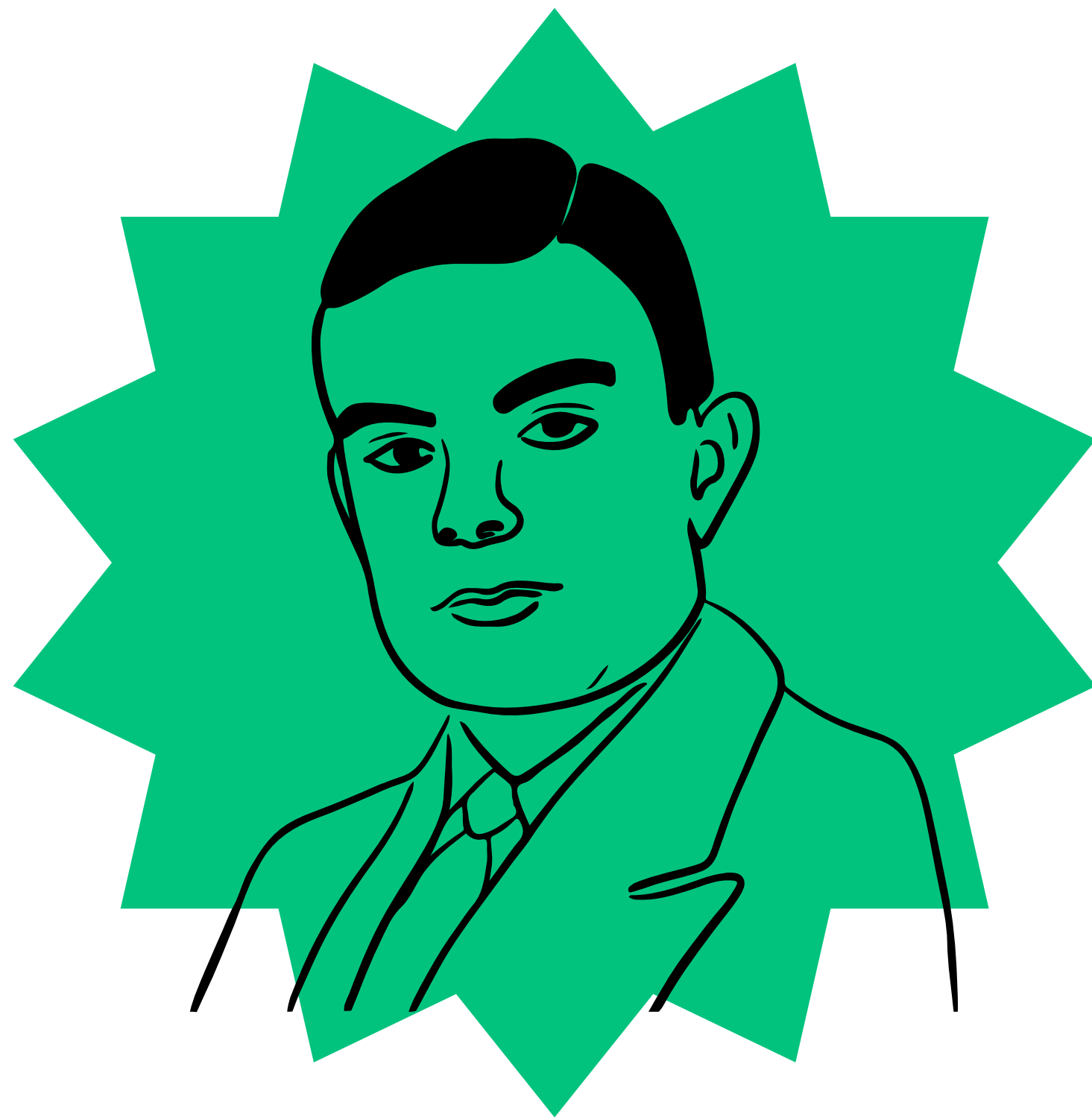
Iason Prassides

*Curriculum Manager,
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Iván Palomares
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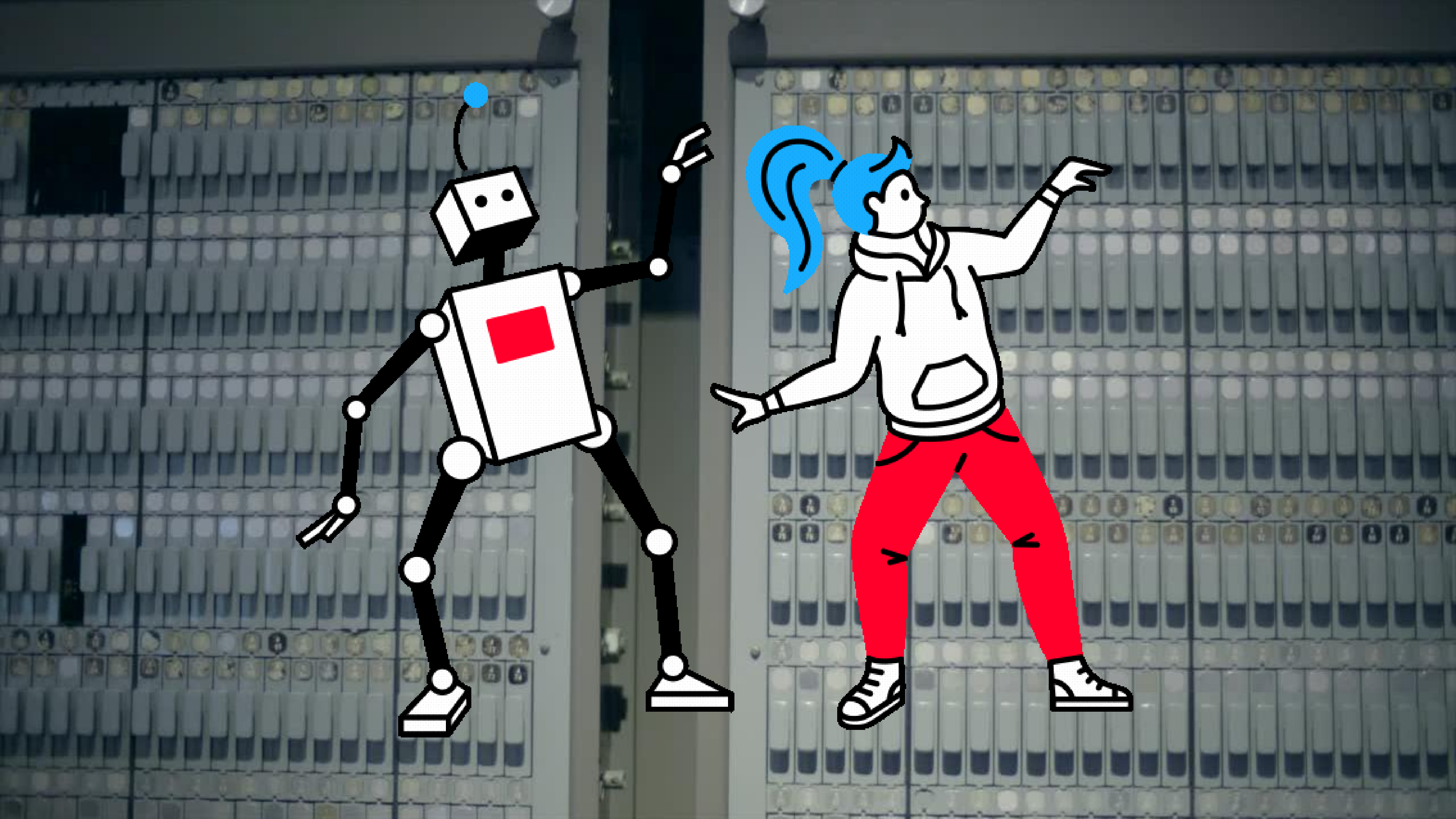
*Senior Data Science & AI
Manager*



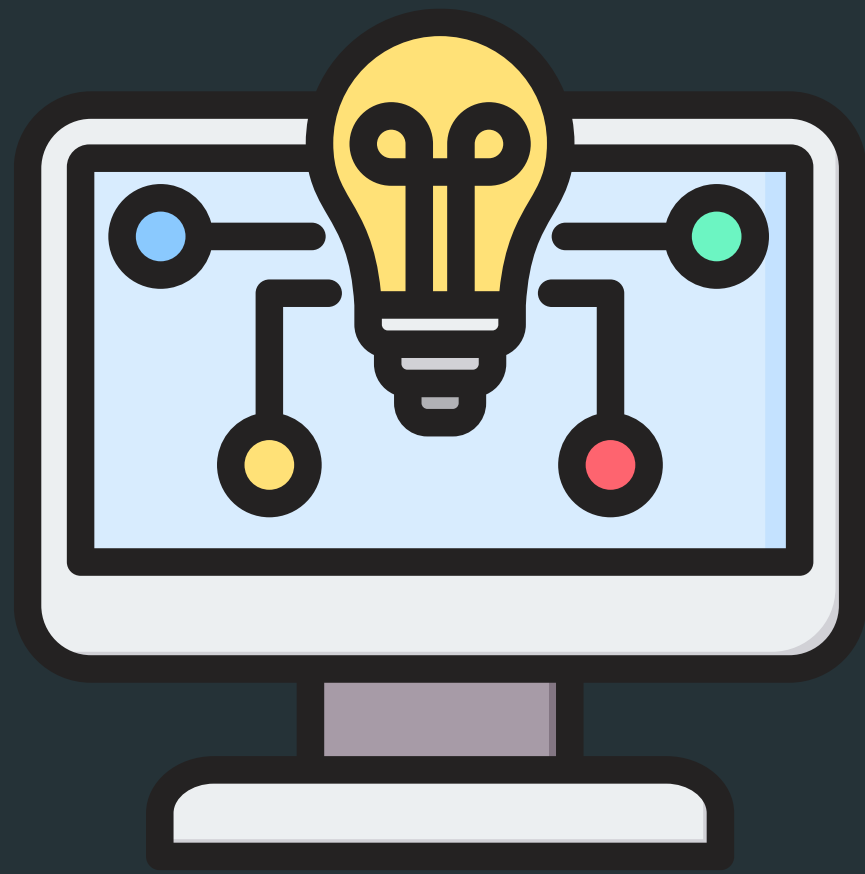
“

**Can
machines
think?**

”



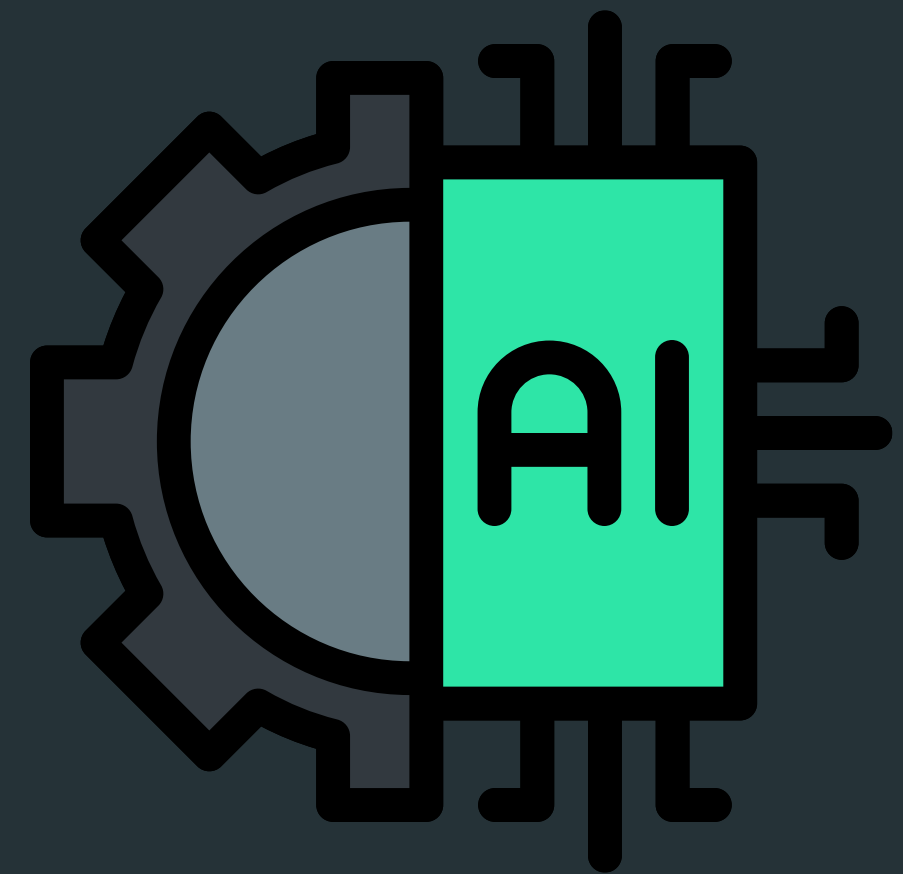
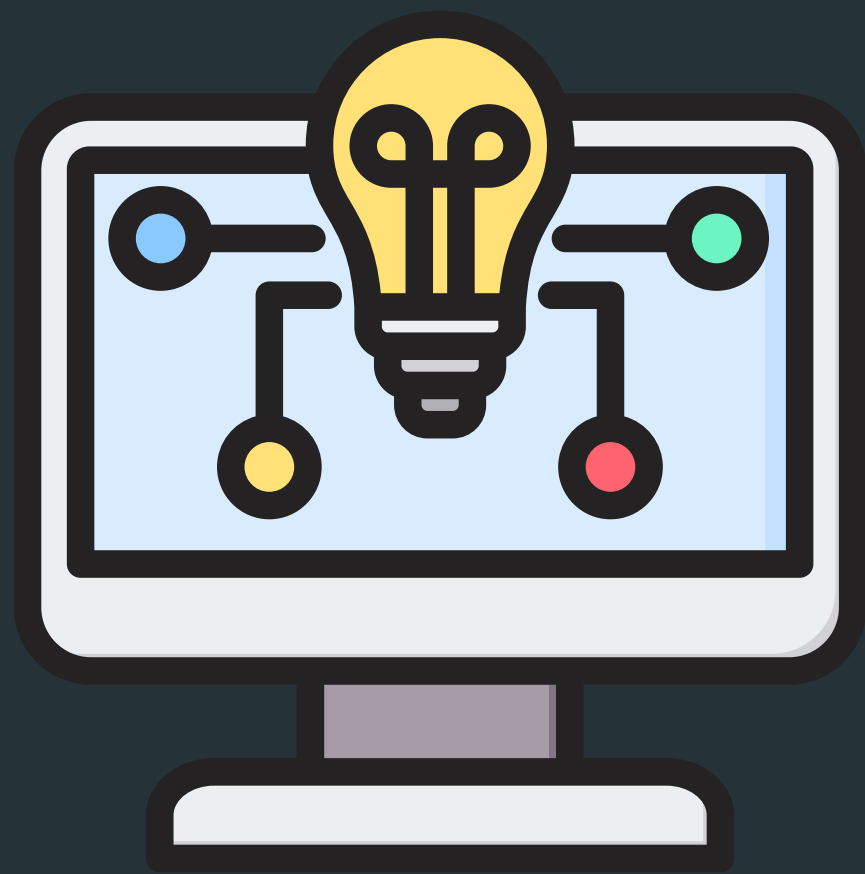
Computer Science



- Hardware
- Programming languages
- Operating systems
- Algorithms

Computer Science

Artificial Intelligence





*The science and
engineering of making
intelligent machines.*

John McCarthy, 1955



“

*The creation of machines
that learn, reason, make
decisions, and mimic
human-like intelligence to
solve problems.*

”

“

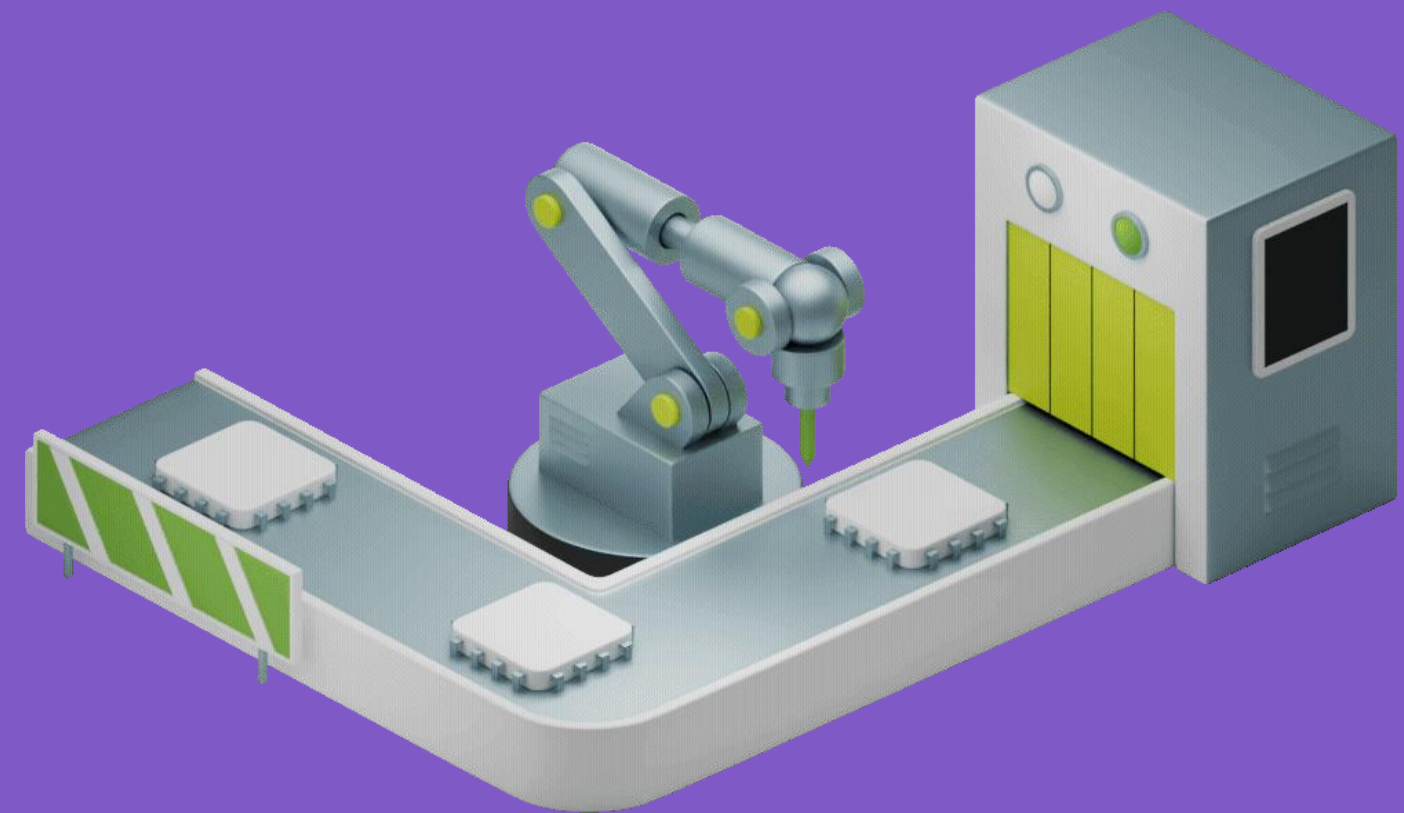
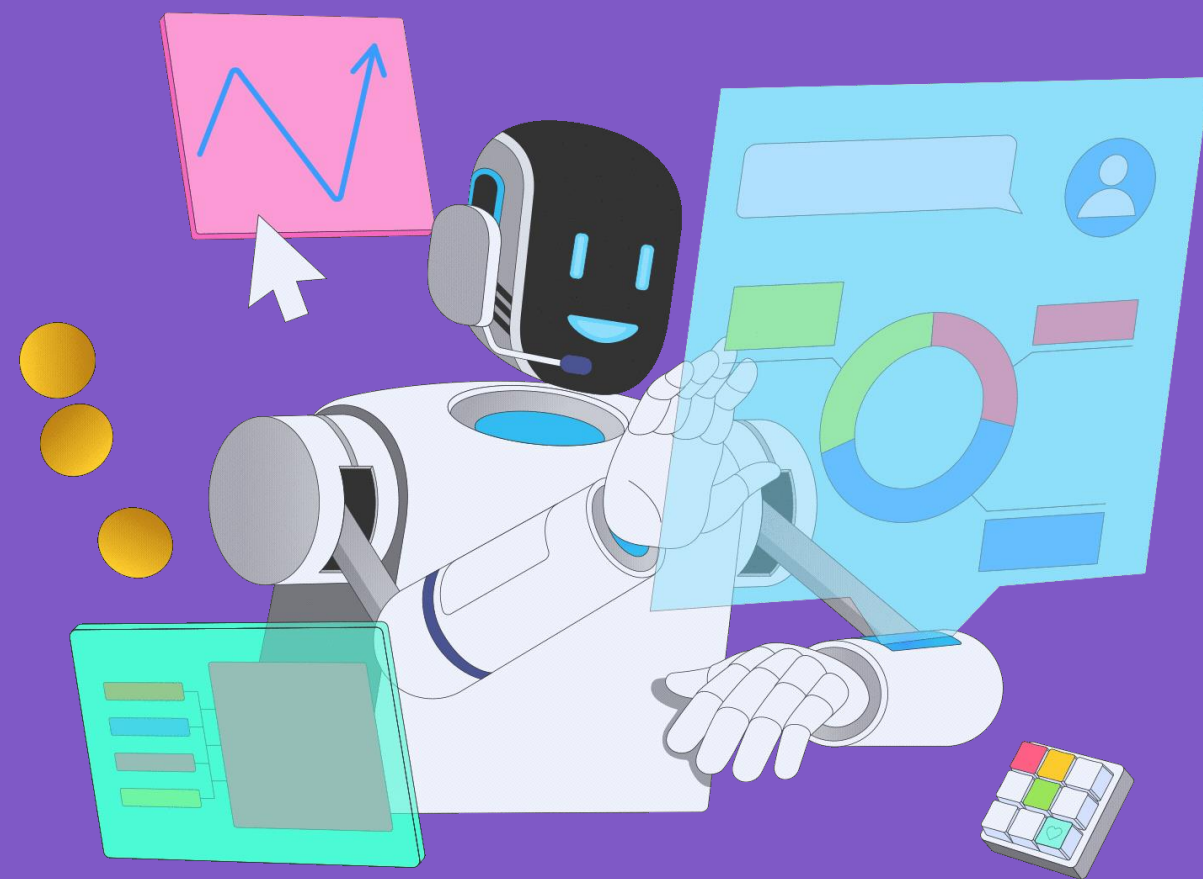
...systems that perceive their environment, collect and interpret data, reason over inferred knowledge, make decisions, and take actions to achieve a goal.

European Commission

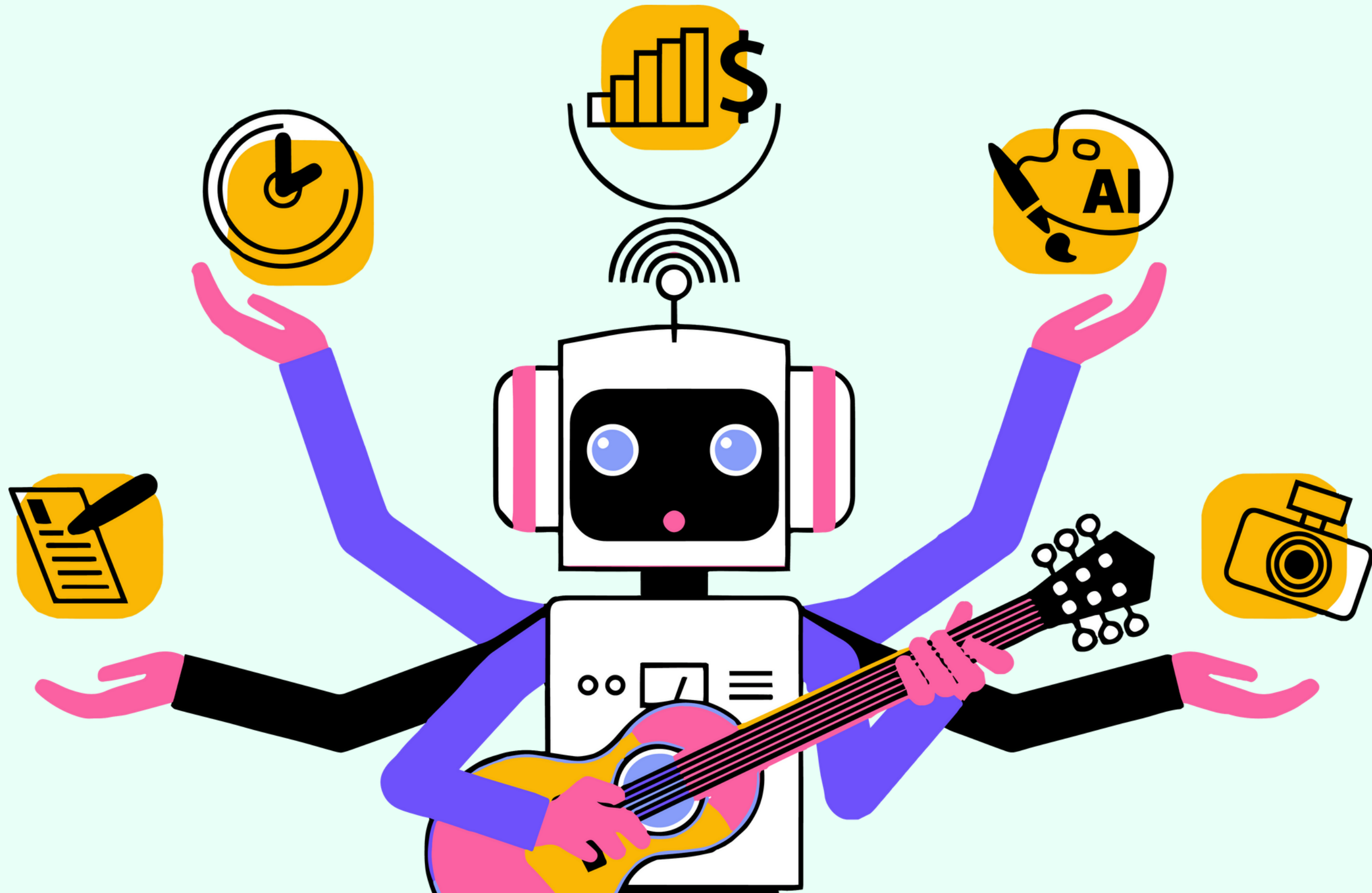
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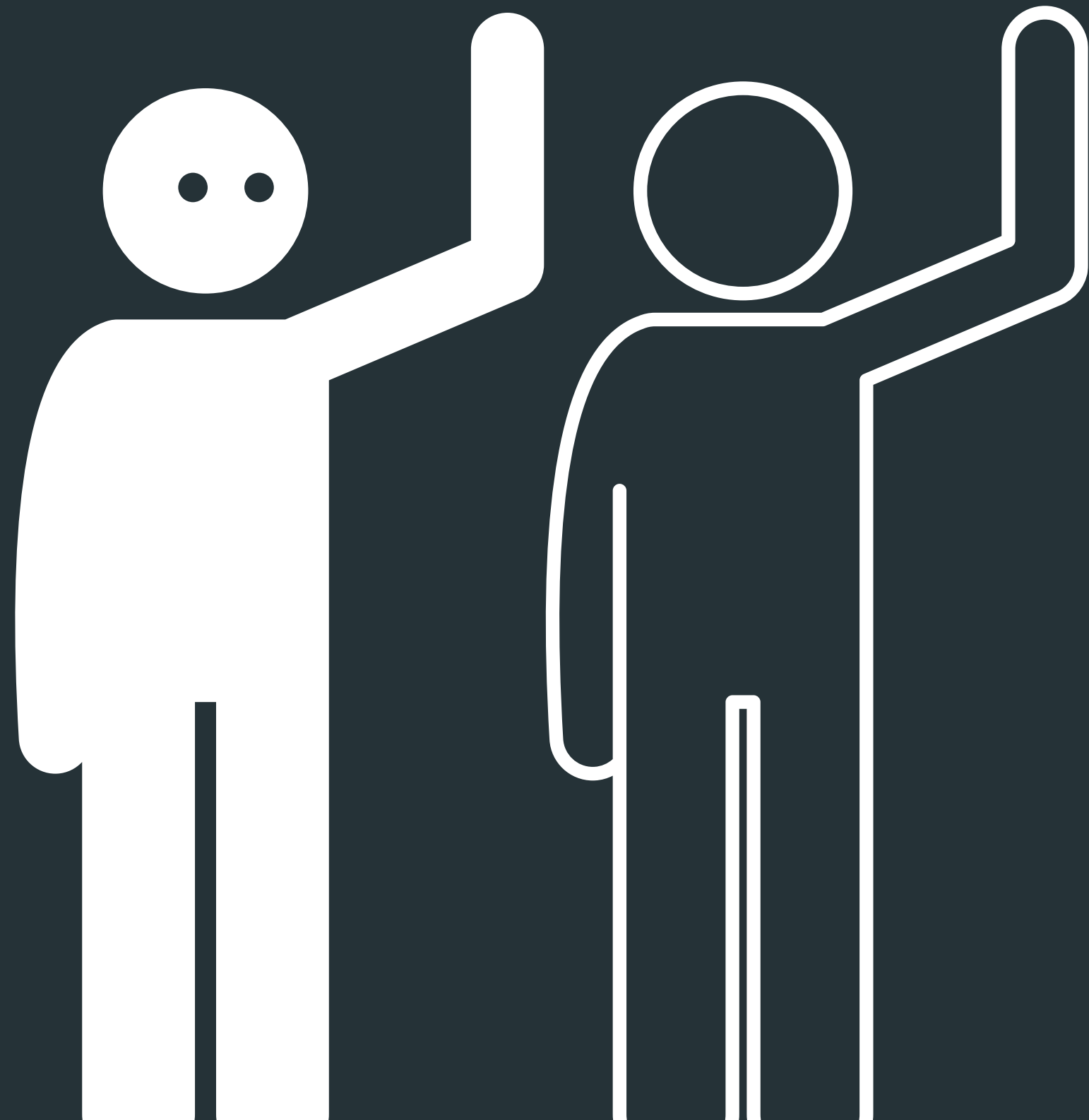


Artificial **Narrow** Intelligence



Artificial **General** Intelligence





- Voice assistants
- Face recognition
- Self-driving cars
- GPT models

Let's practice



Understanding AI



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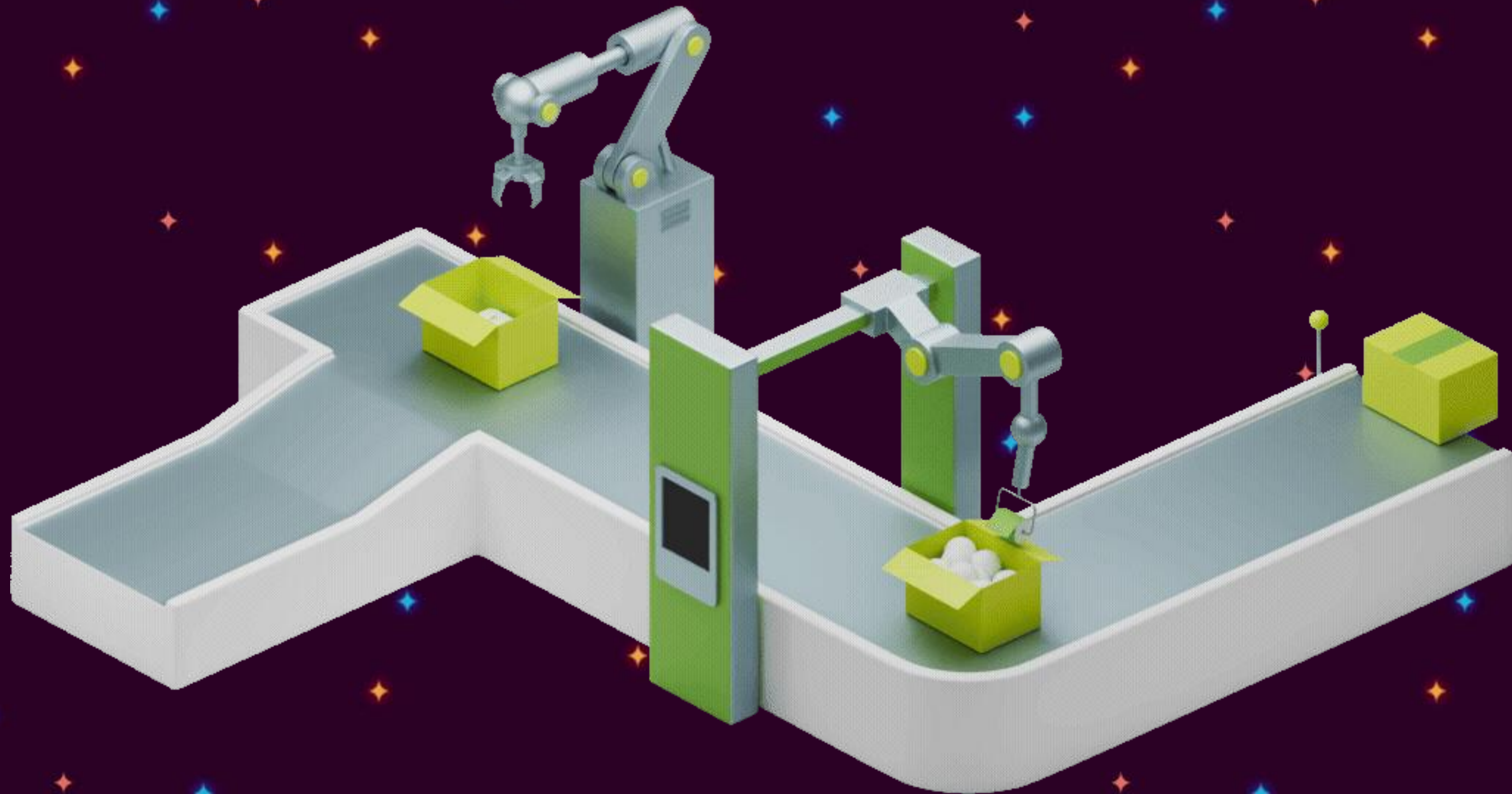
*Curriculum Manager,
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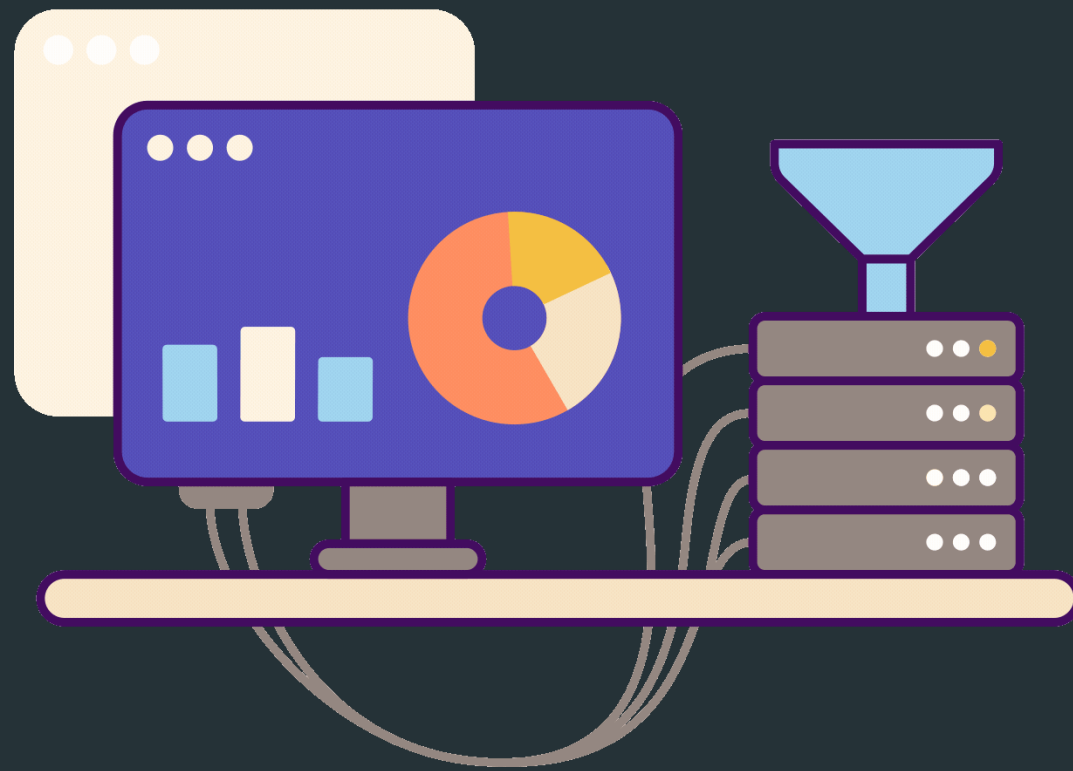
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**What can
AI do?**



Machine learning



- Learn from past data
- Make decisions

Predictions



Forecast the weather

Inferences



Recommend a book



- Segment customers into groups

- Detect anomalies

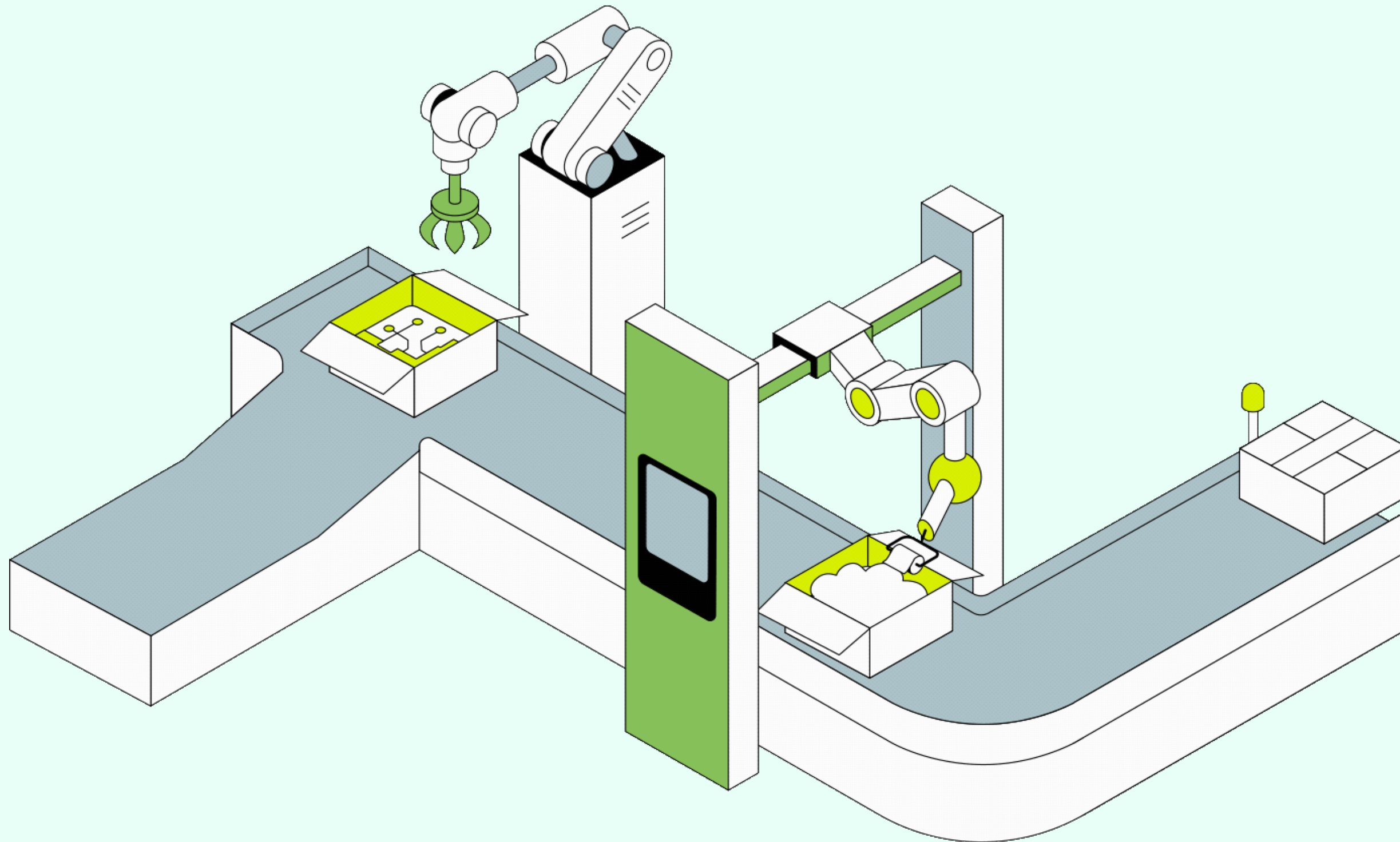


Generate **new**:

- Text
- Images
- Music



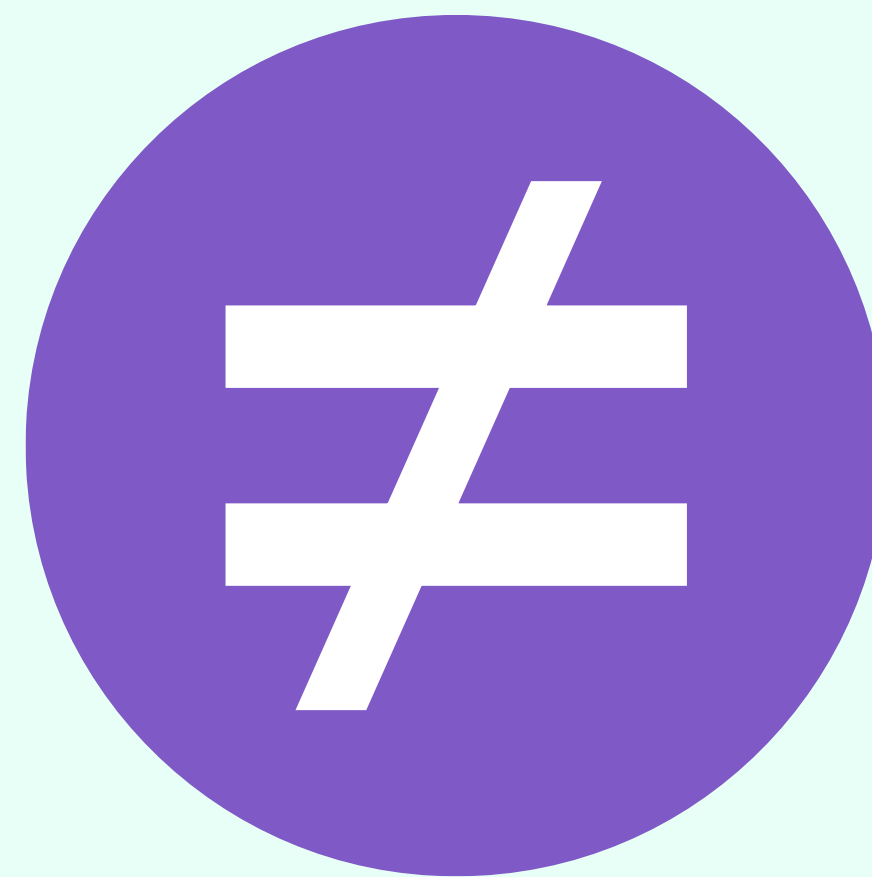
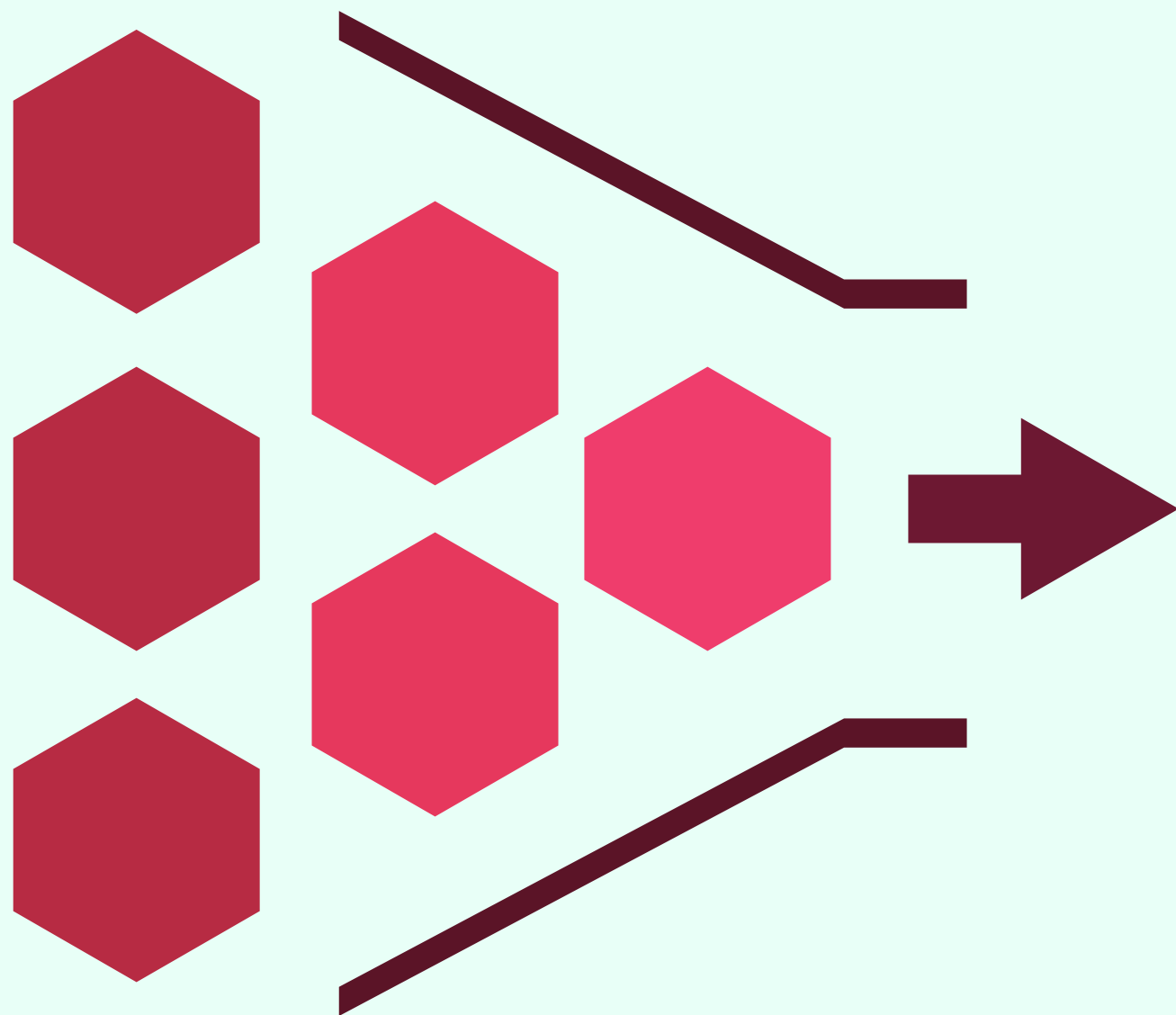
Automation



- Analyze documents or images
- Screen job applications
- Manage warehouse logistics with robotic systems

AI can **struggle** with:

- Social nuance
 - Emotional intelligence
 - Empathy
-
- AI-powered systems may have difficulty with new and unfamiliar situations



Poorly trained AI
risks favoring certain
groups over others
based on factors like
gender, age, or
ethnicity.

AI is only as good as the data it learns from

Let's practice



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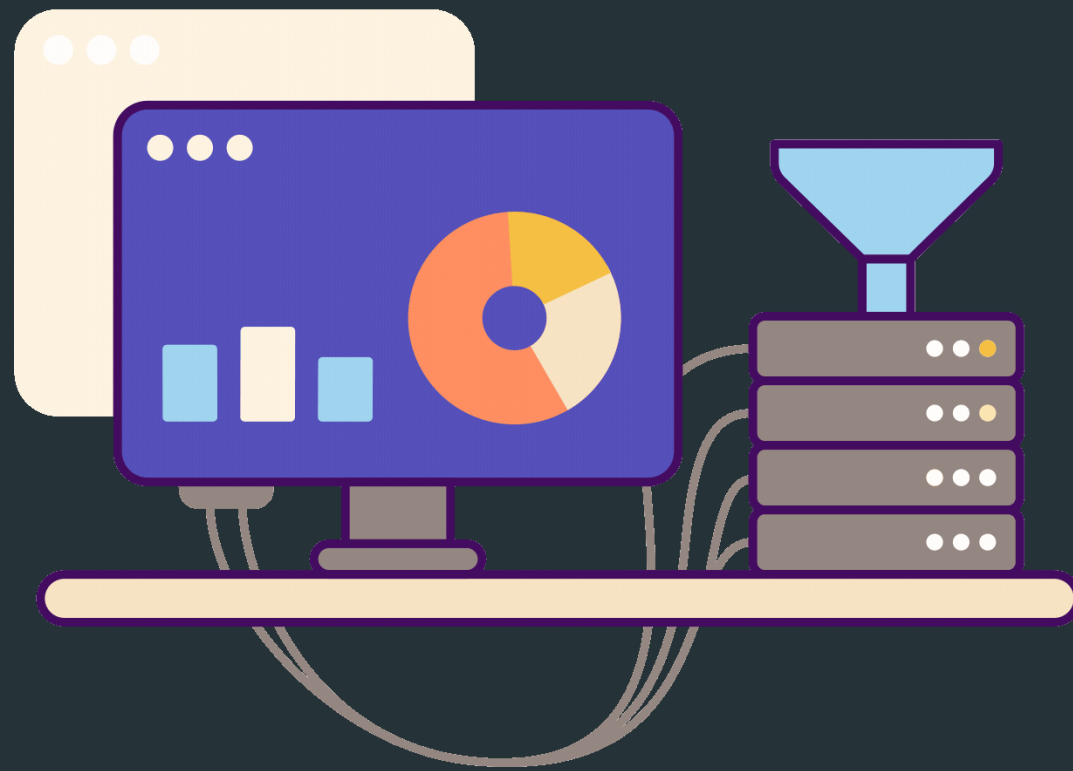
*Senior Data Science & AI
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Areas and related disciplines of AI



What makes AI tick?

Machine learning



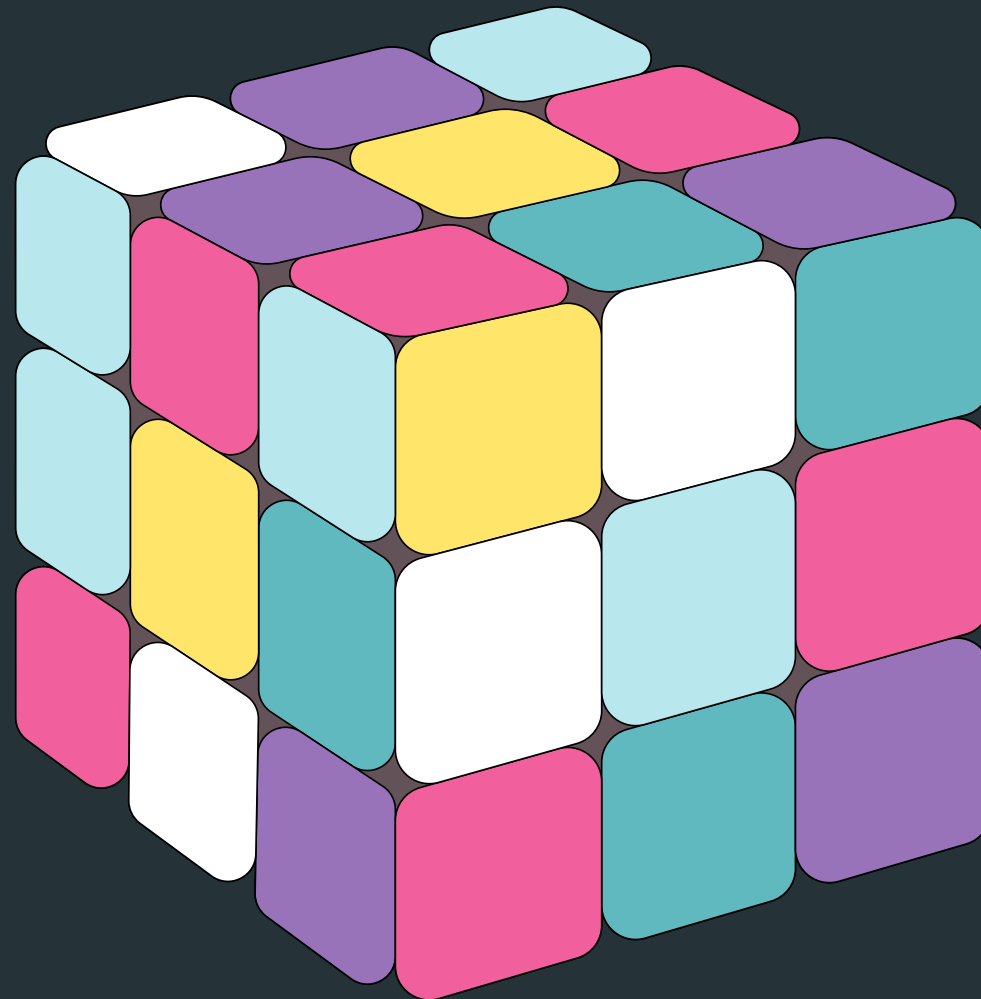
- Learn from data
- Recognize patterns
- Make predictions and decisions

Deep learning

- Branch of machine learning
- Uses neural networks to tackle big challenges
- Recognize images
- Play games

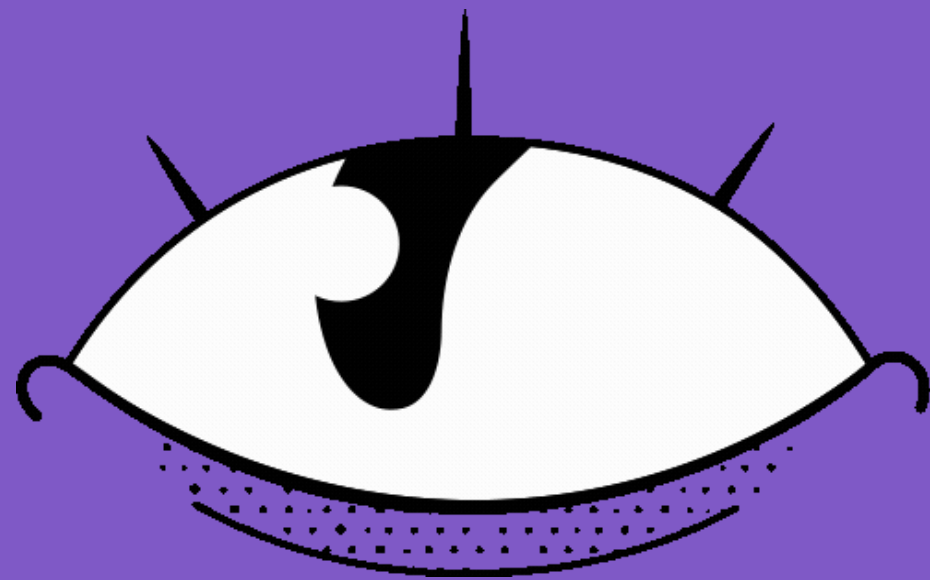


**Knowledge
representation**



Reasoning

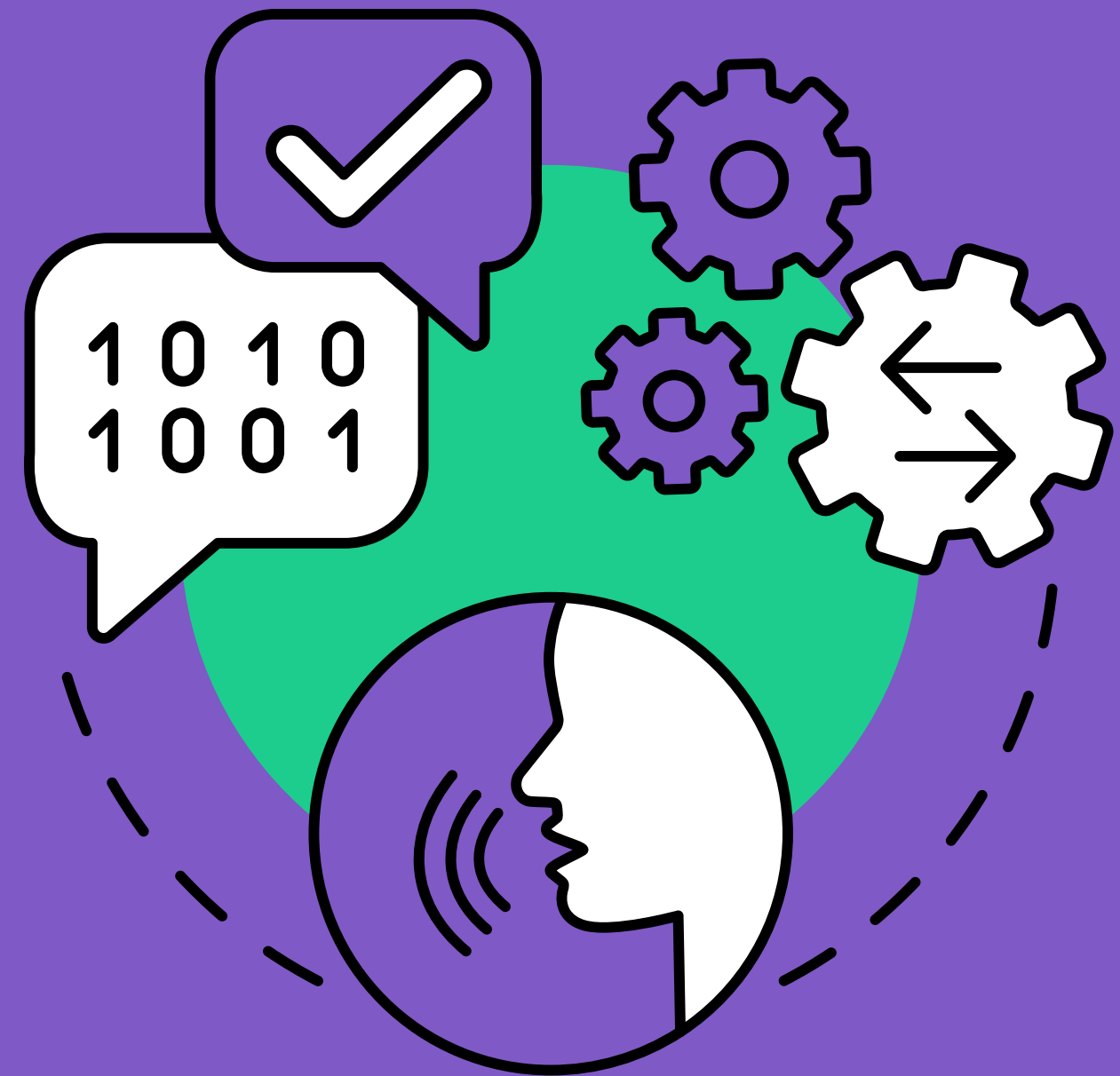
Computer vision



- Allows computers to 'see' images and objects

Natural Language Processing

- **NLP**
- Enables AI to understand and generate human languages – text and speech



**Artificial
Intelligence**

**Computer
Vision**

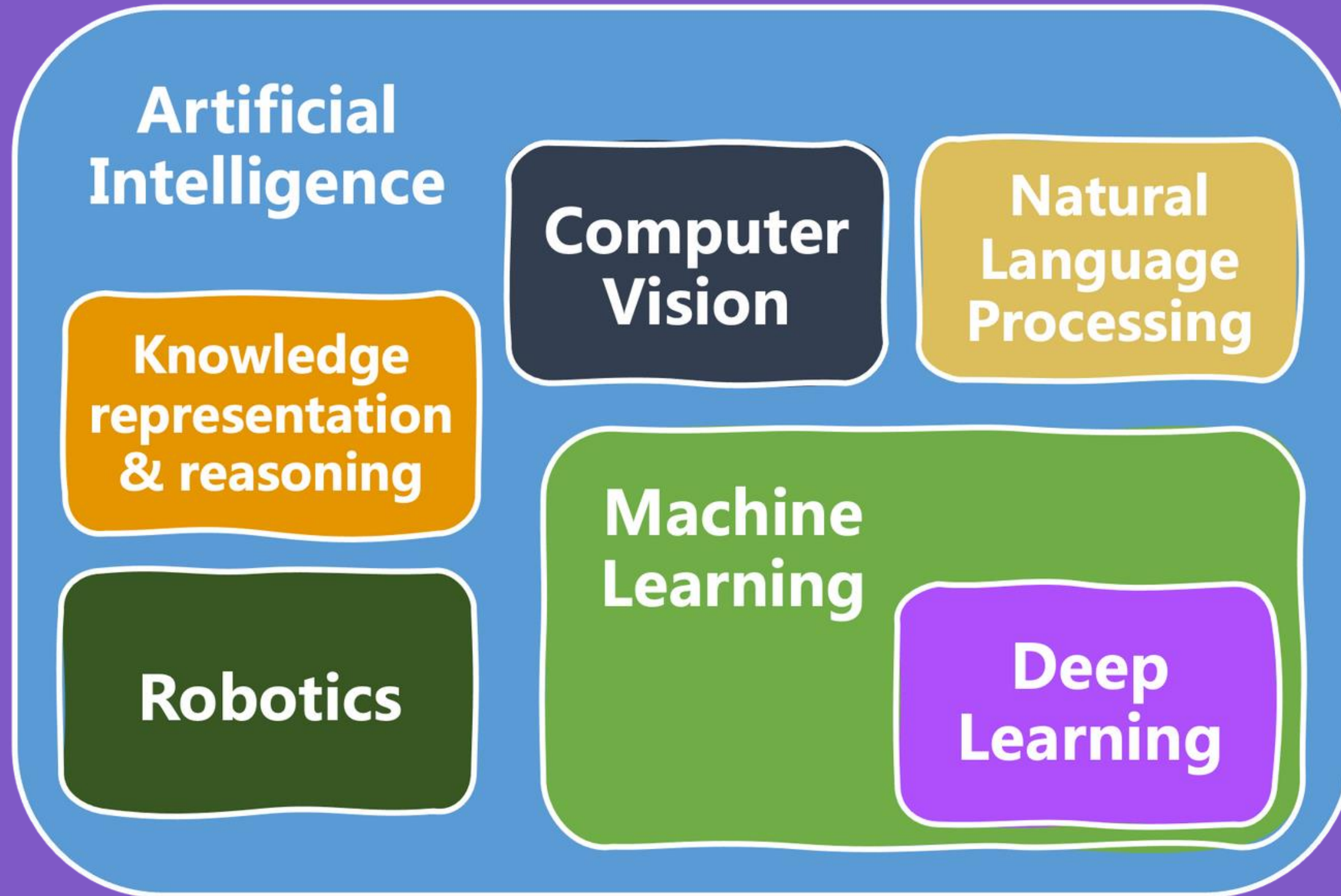
**Natural
Language
Processing**

**Knowledge
representation
& reasoning**

**Machine
Learning**

Robotics

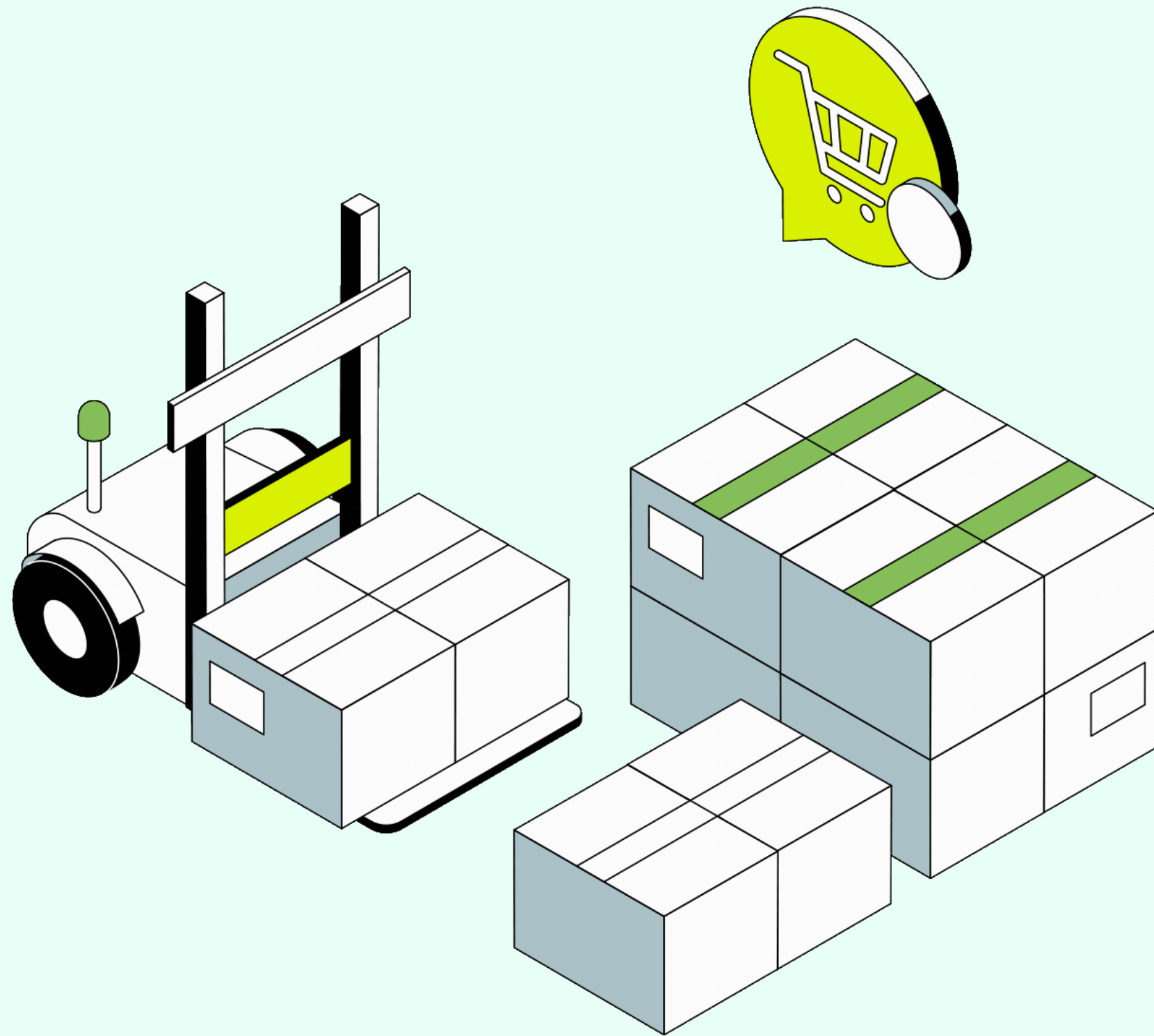
**Deep
Learning**



E-commerce

- Machine learning about shopping habits





Smart warehouse

- AI-powered robots using Computer Vision, communicating, and reasoning

**Artificial
Intelligence**

**Knowledge
representation
& reasoning**

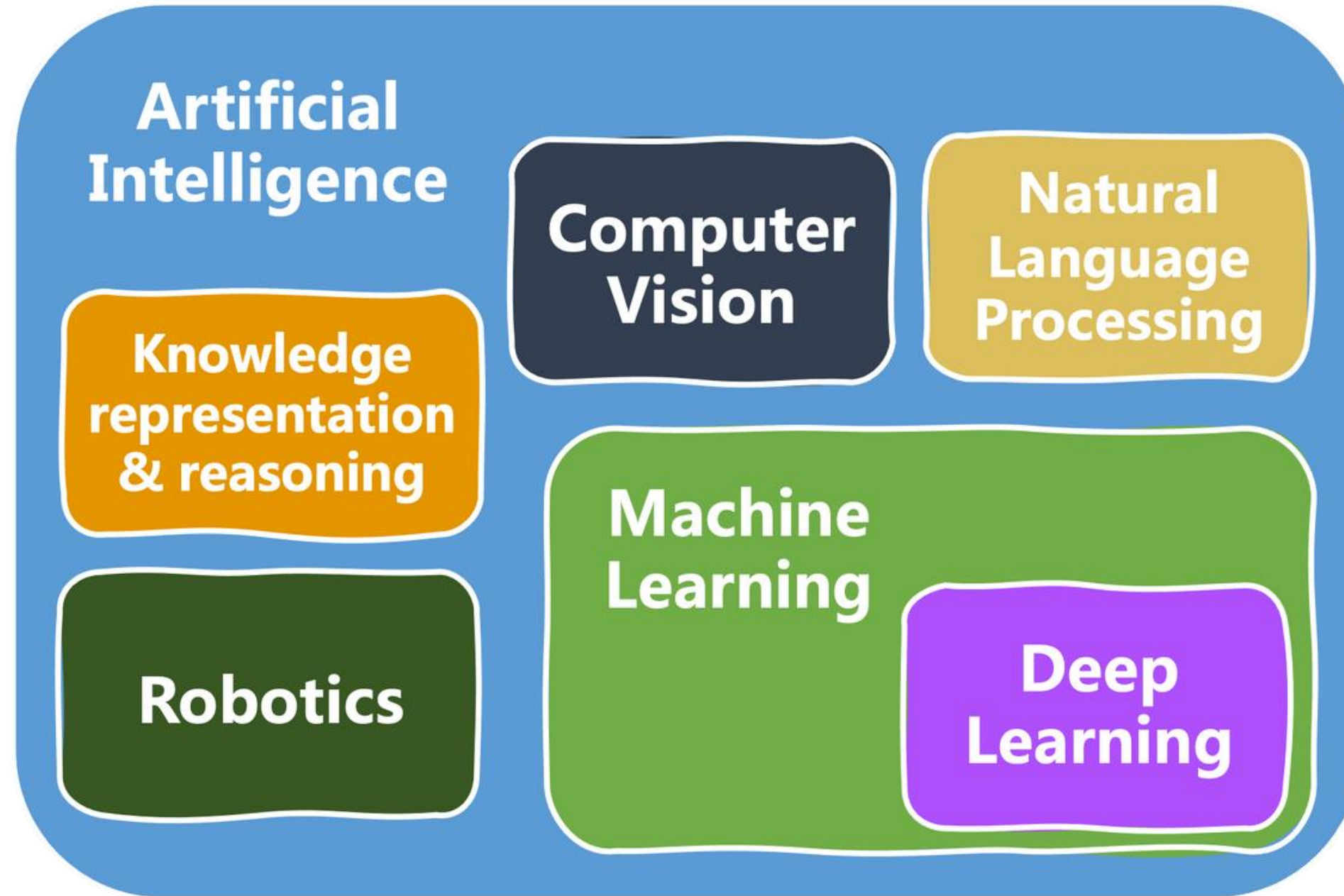
Robotics

**Computer
Vision**

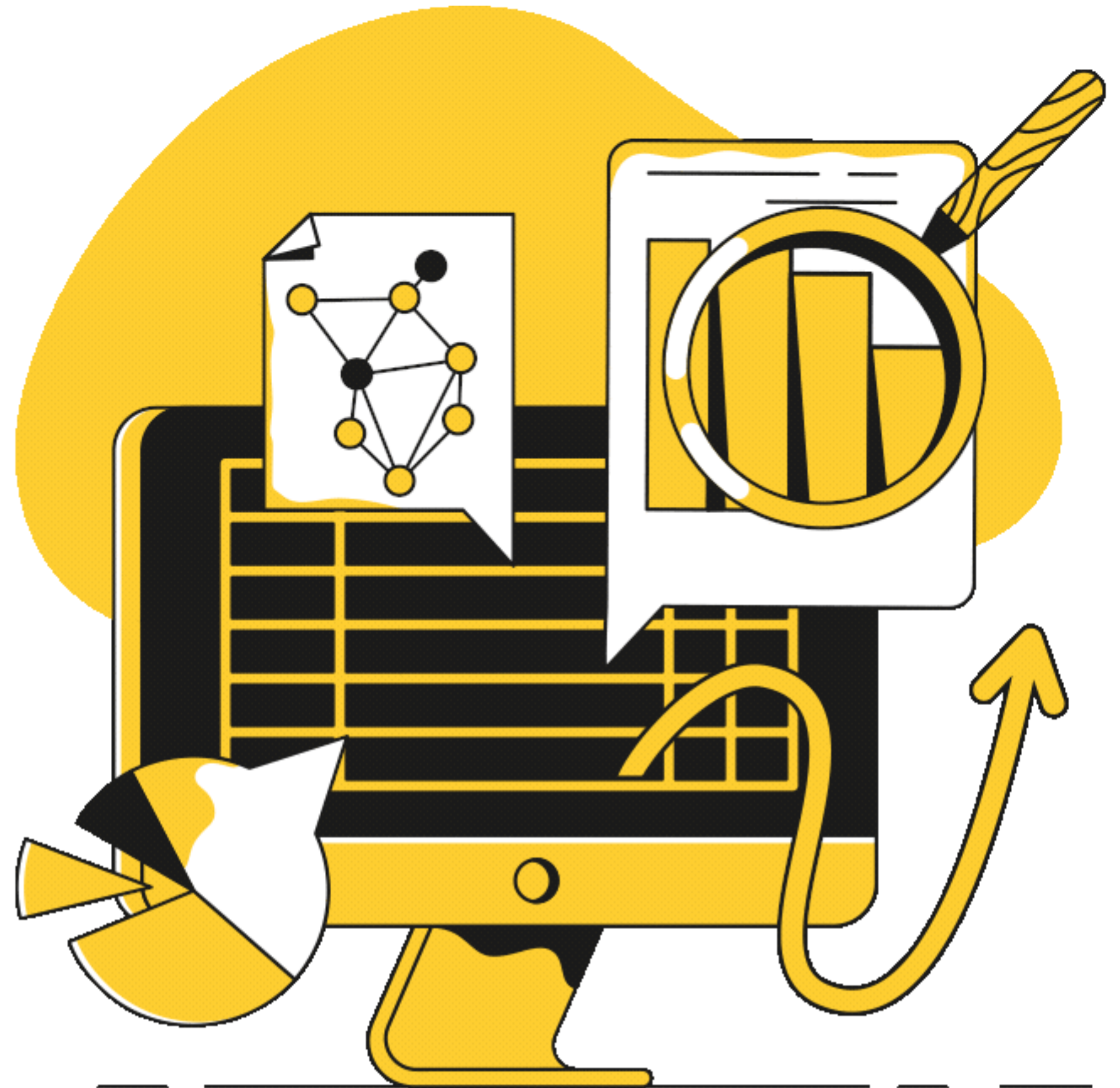
**Natural
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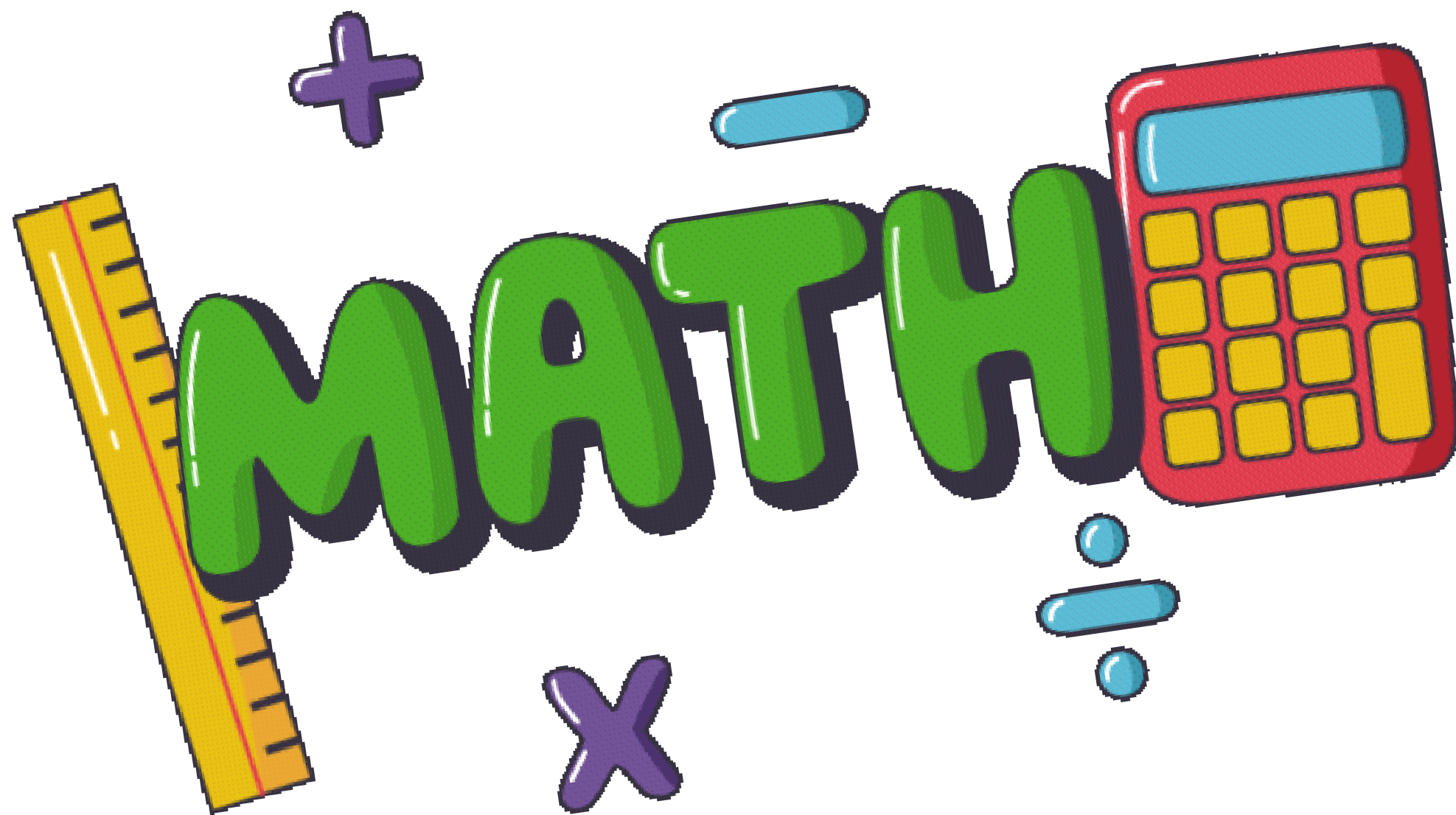
**Machine
Learning**

**Deep
Learning**



Data Science









Let's practice



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