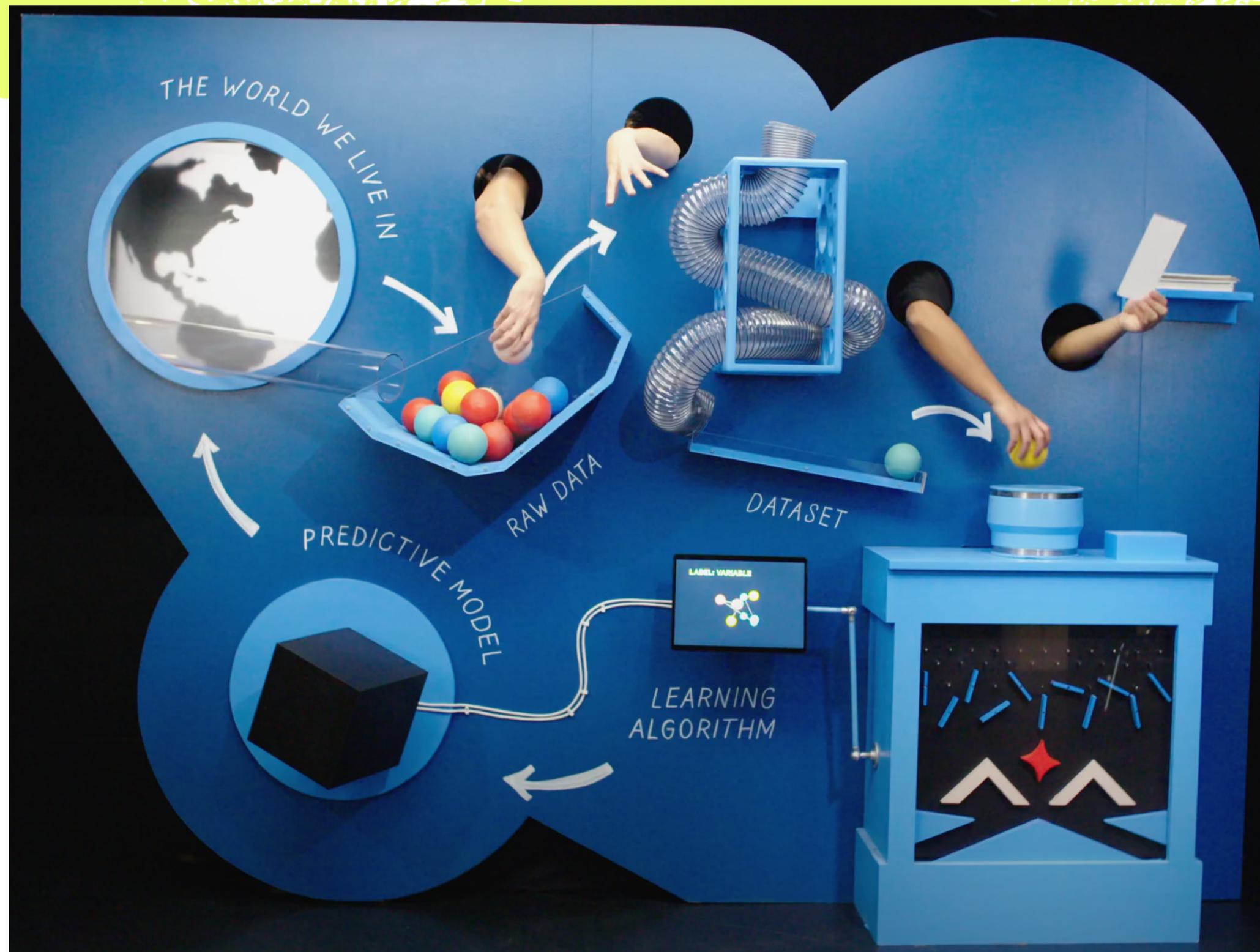


# What is AI?



# **OBJECTIVE**

**LEARN HOW TO MAKE**

**FAIR MACHINE LEARNING**

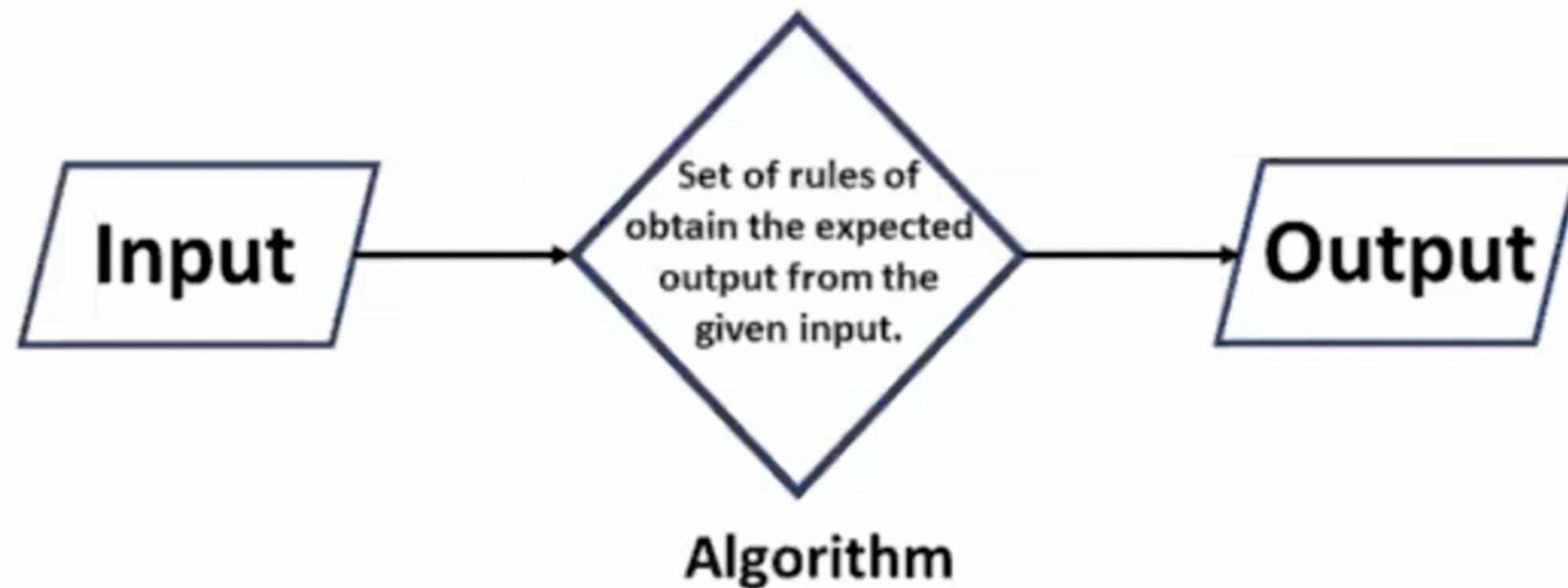
**MODELS**

# Real Life Examples of AI in Daily Life



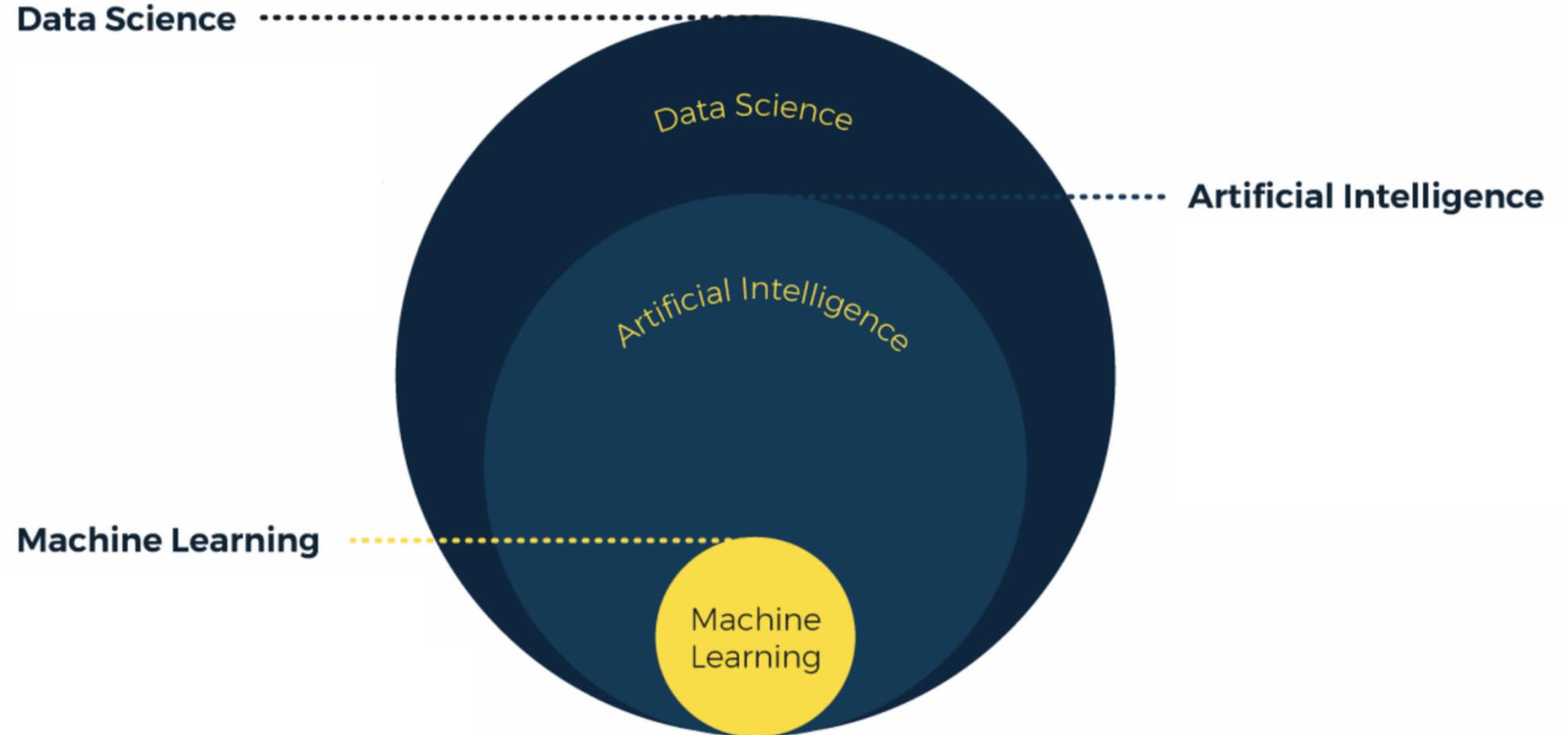
**Artificial intelligence is a set of algorithms, that can make decisions with unforeseen circumstances**

# WHAT IS AN ALGORITHM?



- Machine learning: an algorithm that learns about data and find patterns or insights

## AI vs. Data Science vs. Machine Learning

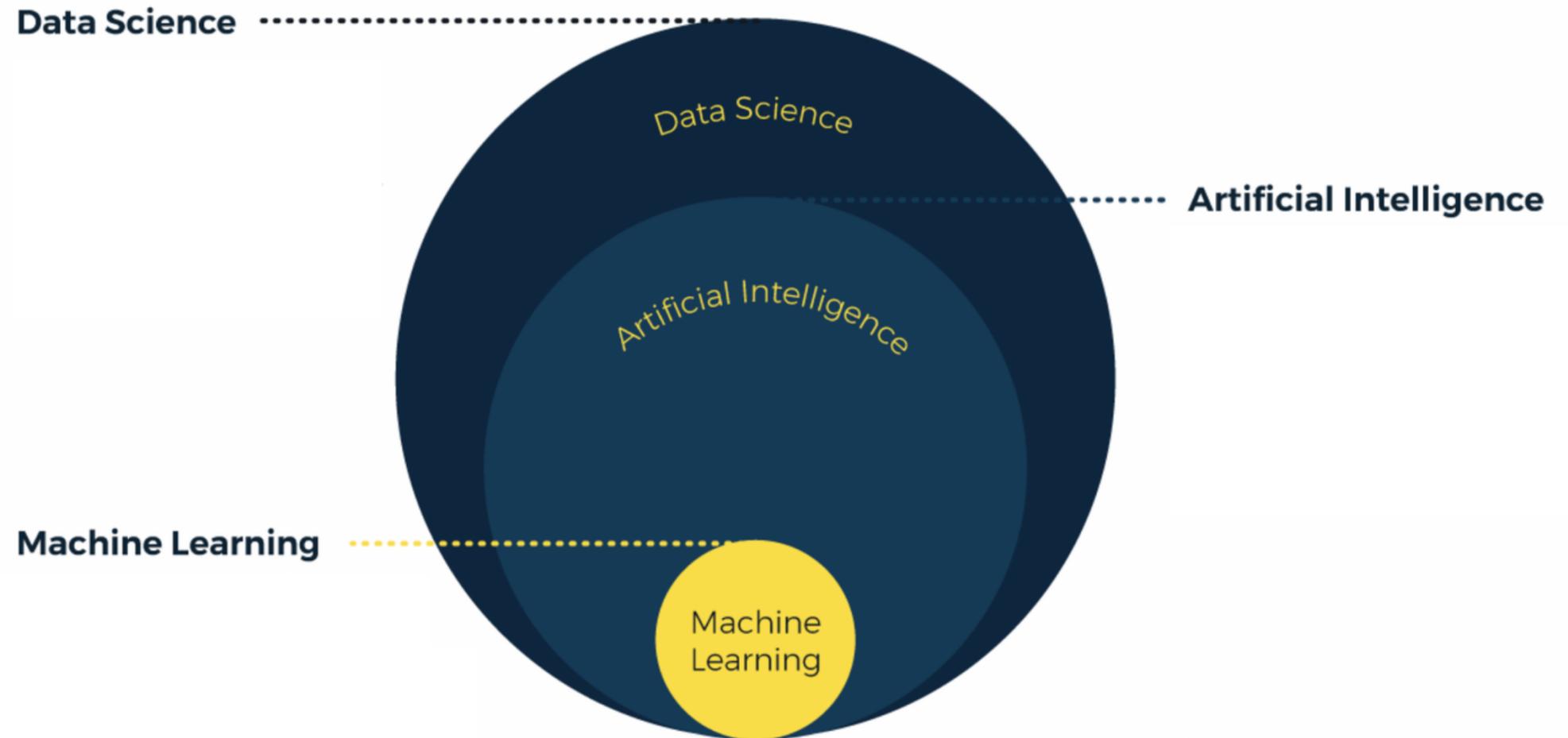


# Real Life Examples of AI in Daily Life



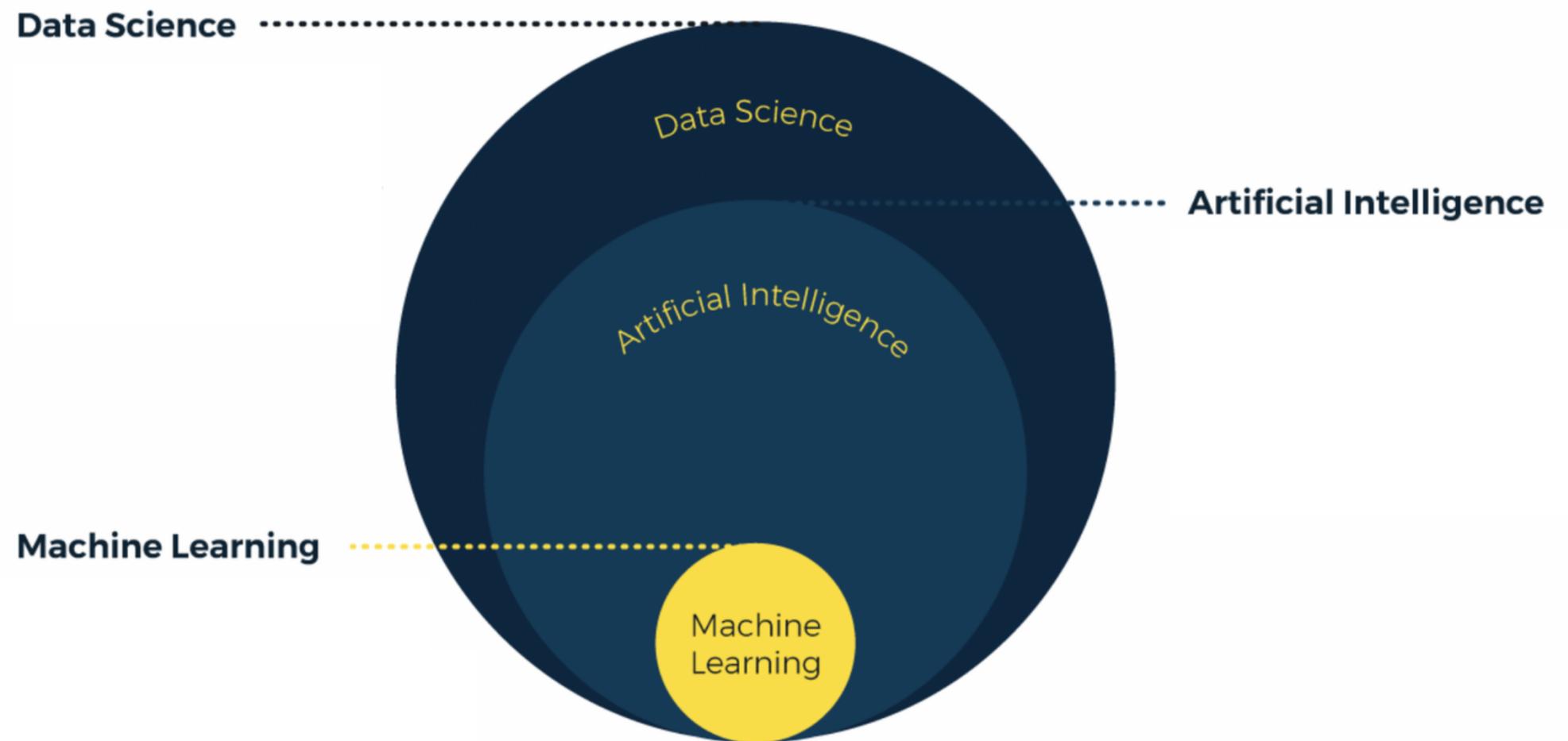
- AI: a set of algorithms that can make predictions through the use of with data

## AI vs. Data Science vs. Machine Learning

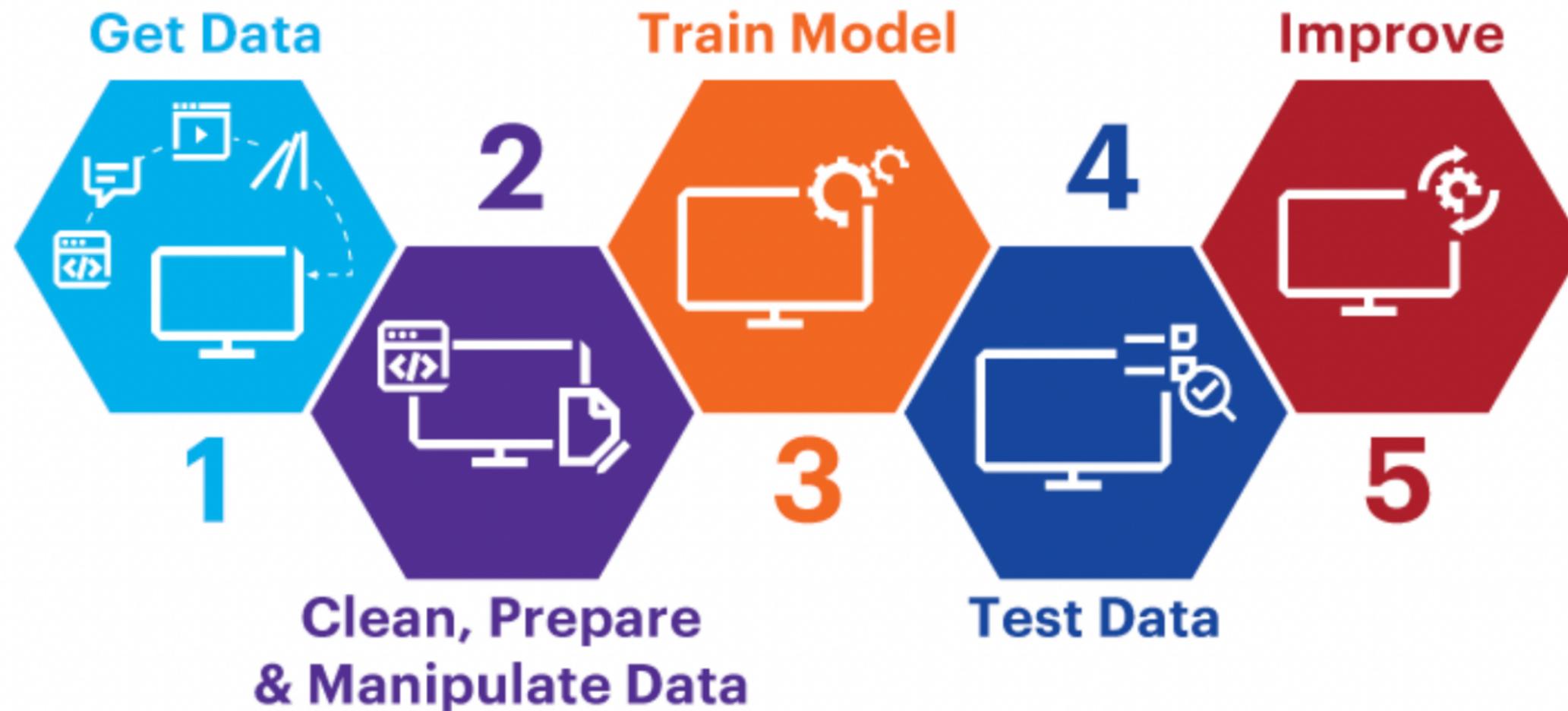


- Data science: the process of analyzing and extracting relevant info from data

## AI vs. Data Science vs. Machine Learning



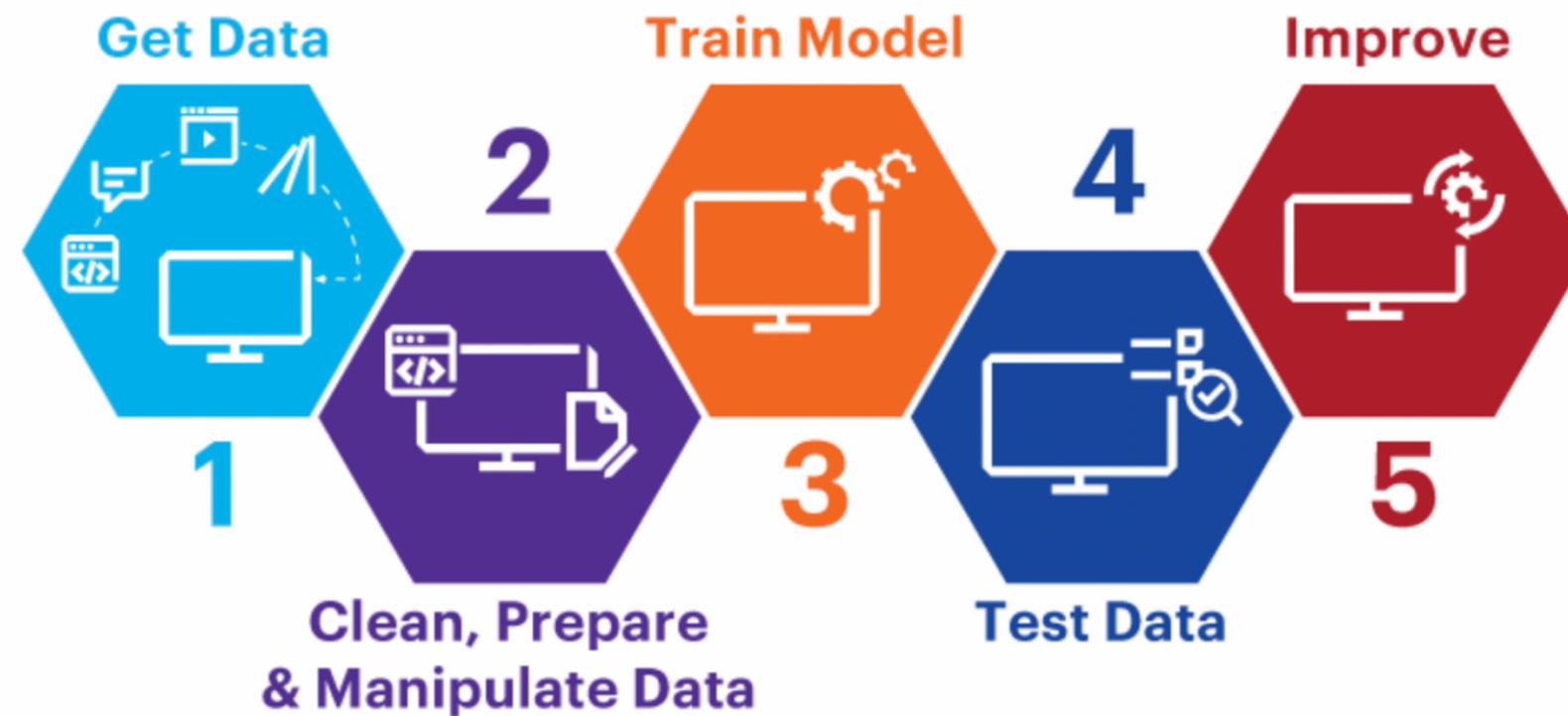
# Machine Learning Process



1. Get data:

a. The first step in the Machine Learning process is getting data

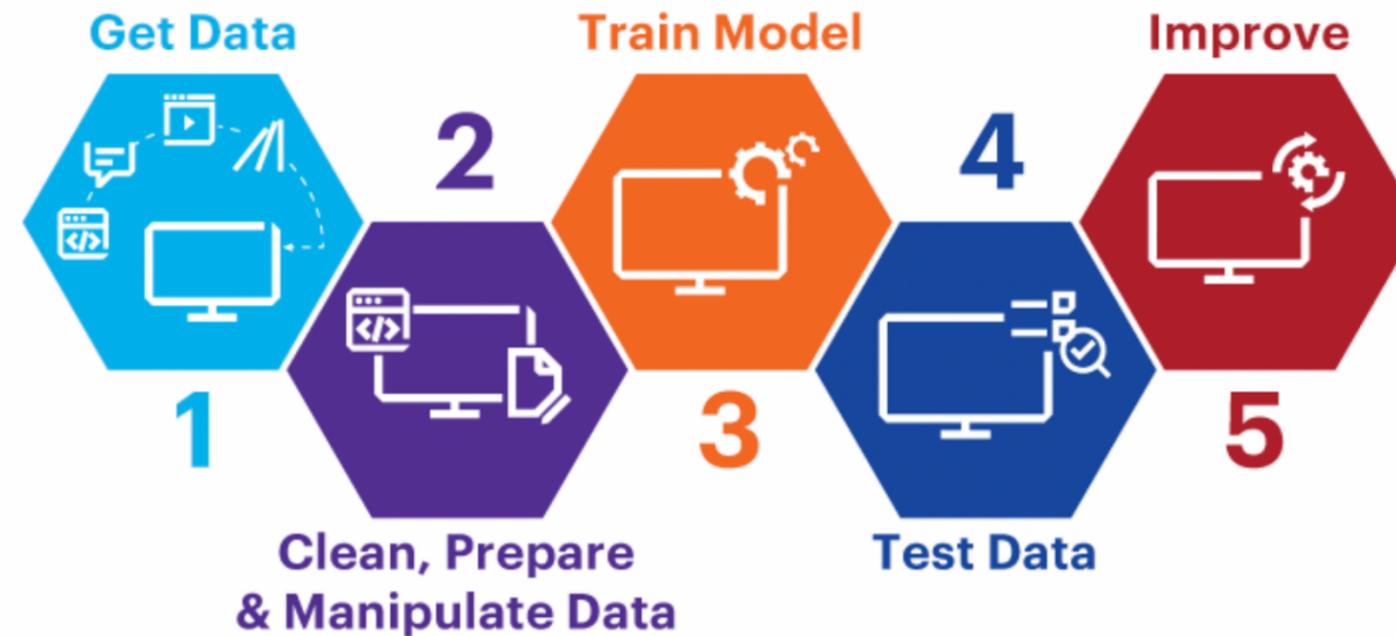
# Machine Learning Process



## 2. Clean, Prepare & Manipulate Data

- Real-world data often has unorganized, missing, or noisy elements
- Having a clean data set helps with your model's accuracy

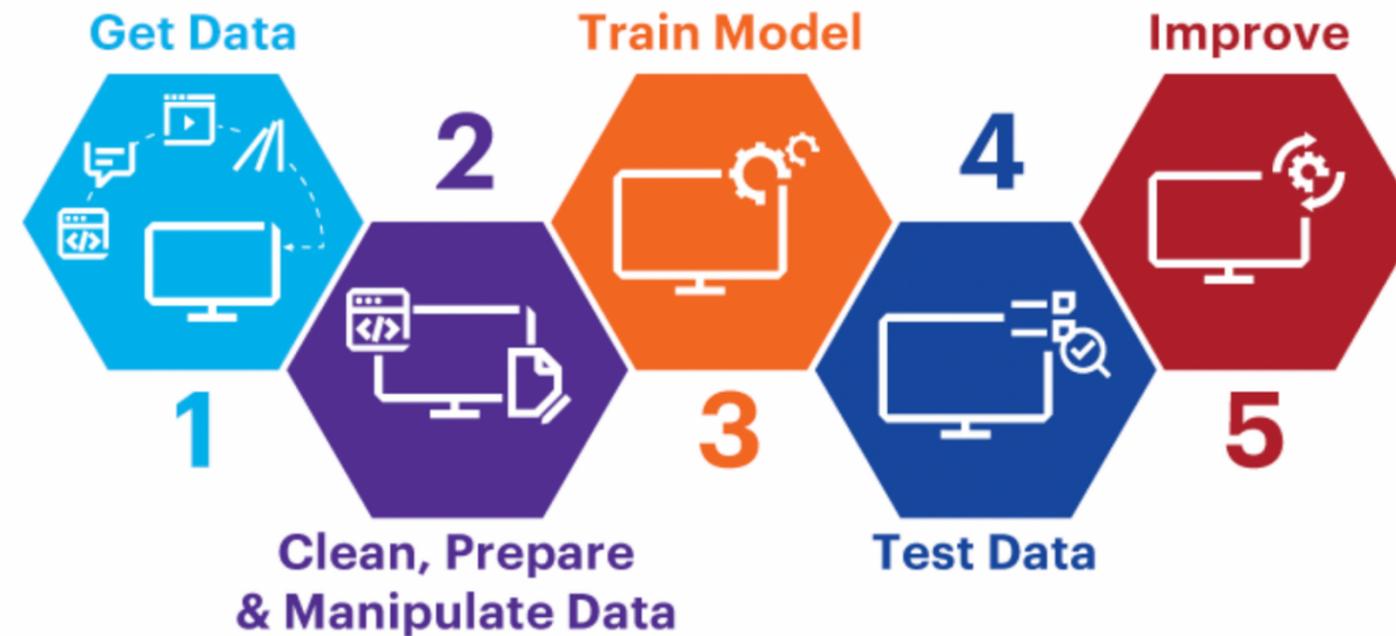
# Machine Learning Process



## 3. Train Model

- An algorithm uses math to learn patterns in the data and develop predictions
  - Classification: used to categorize an input into many categories

# Machine Learning Process



## 4. Test Data

- a. Check if your model's predictions were correct
  - i. If the results are not satisfactory, you need to improve and retrain your ML model which is step 5

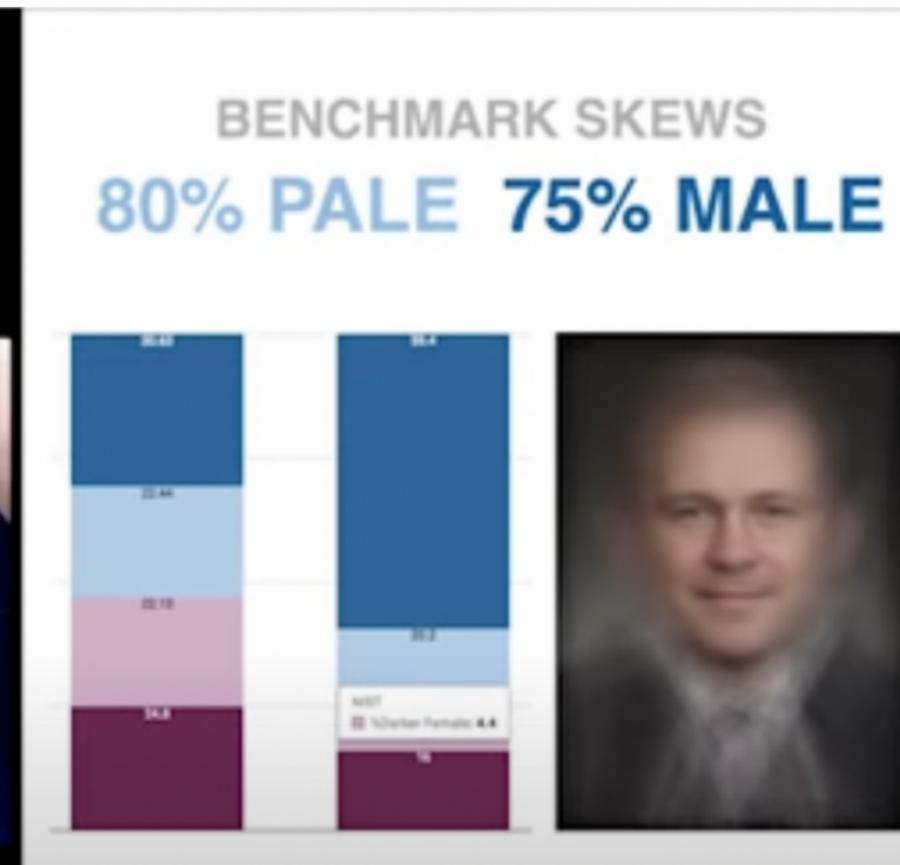
# HOW DOES LASER/ANY AI WORK?

- **AI WAS CREATED TO MIMIC HOW HUMANS MAKE DECISIONS**
- **DEFINITION: AI IS A MACHINE THAT CAN MAKE DECISIONS BASED ON PATTERNS IN THE DATA**
- **FOR EXAMPLE, EVEN IF YOU'VE NEVER SEEN A TIBETAN MASTIFF, YOU WOULD KNOW IT'S A DOG BASED ON PATTERNS OF FEATURES THAT YOU KNOW ARE SIMILAR IN ALL DOGS (TAIL, FUR, FOUR PAWS, ETC. )**



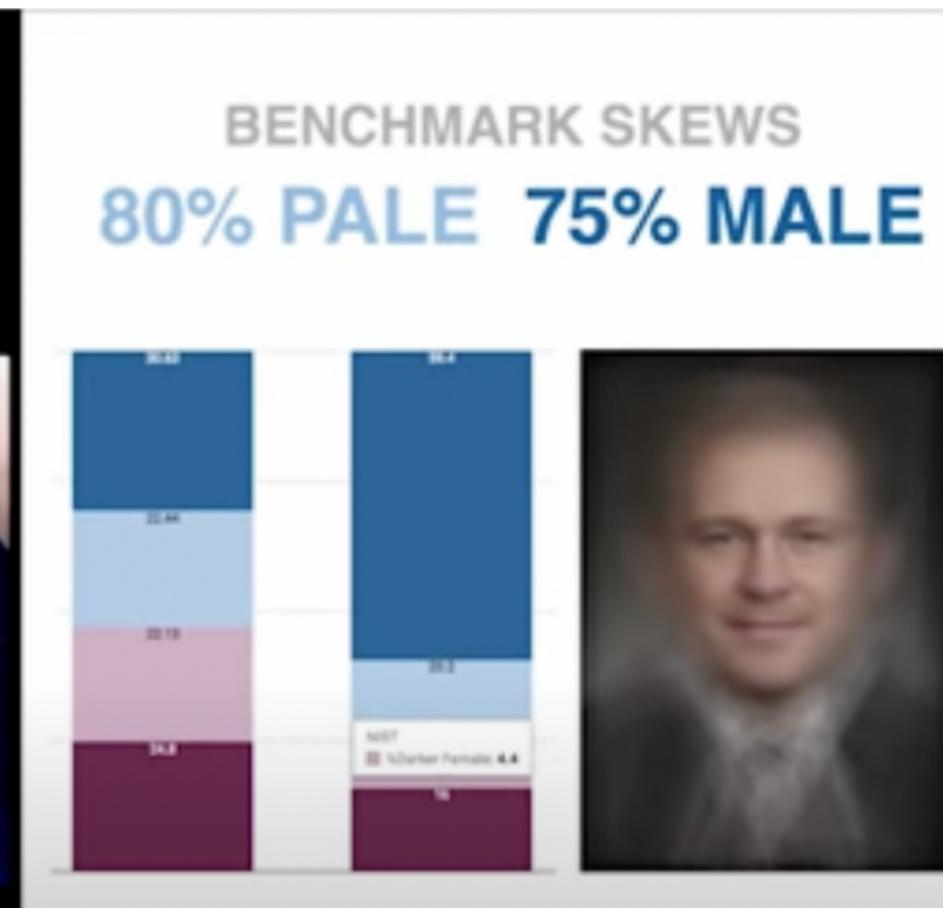
# Class Imbalance

- Dr. Buolamwini proved the data sets that some facial recognition software was trained on consisted mostly of White males. As a result, some algorithms could not recognize darker skinned women.

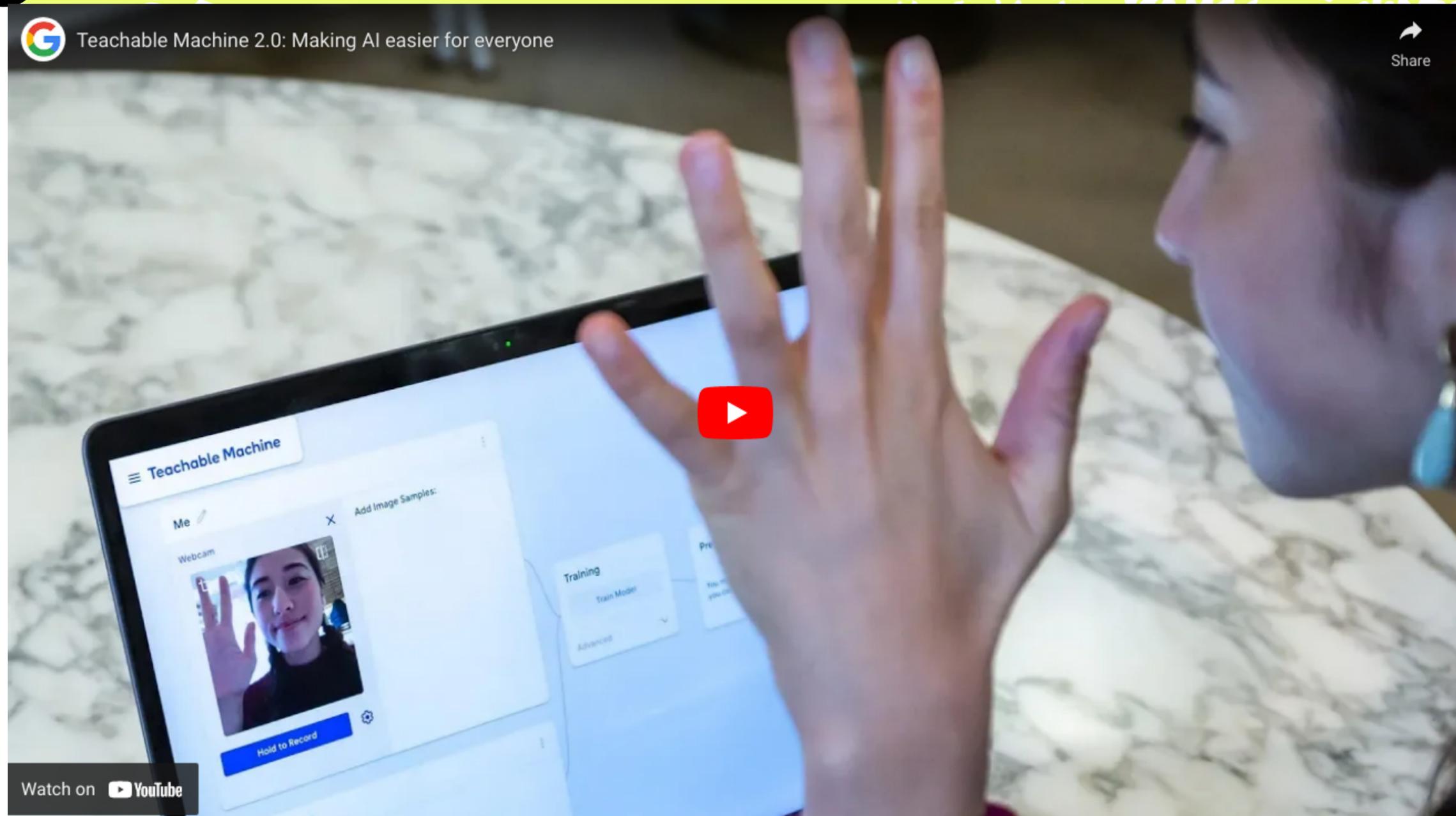


# Class Imbalance

- Class = categories you want the computer to learn
- Class imbalance occurs when the training data is not evenly distributed between classes, which can lead to biased machine learning models

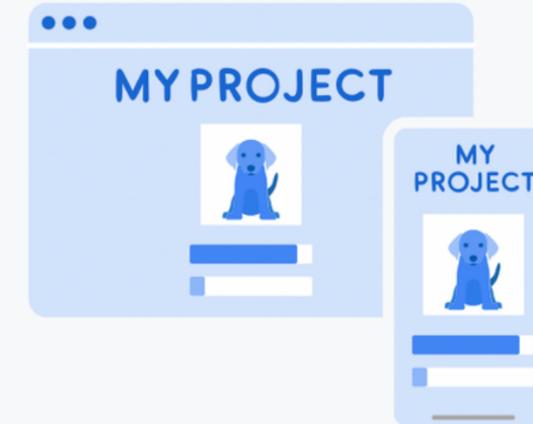
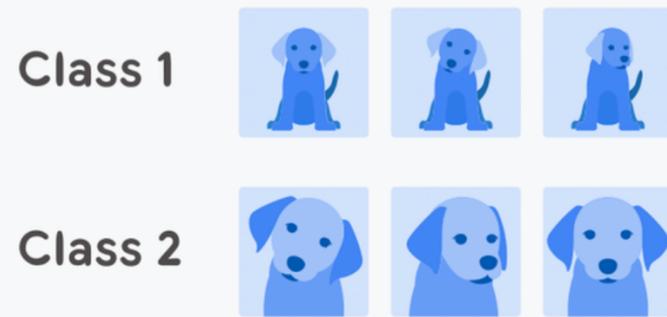


# Teachable Machine: Make your own ML model



# Teachable Machine

## How do I use it?



### 1 Gather

Gather and group your examples into classes, or categories, that you want the computer to learn.

[Video: Gather samples](#) ▶

### 2 Train

Train your model, then instantly test it out to see whether it can correctly classify new examples.

[Video: Train your model](#) ▶

### 3 Export

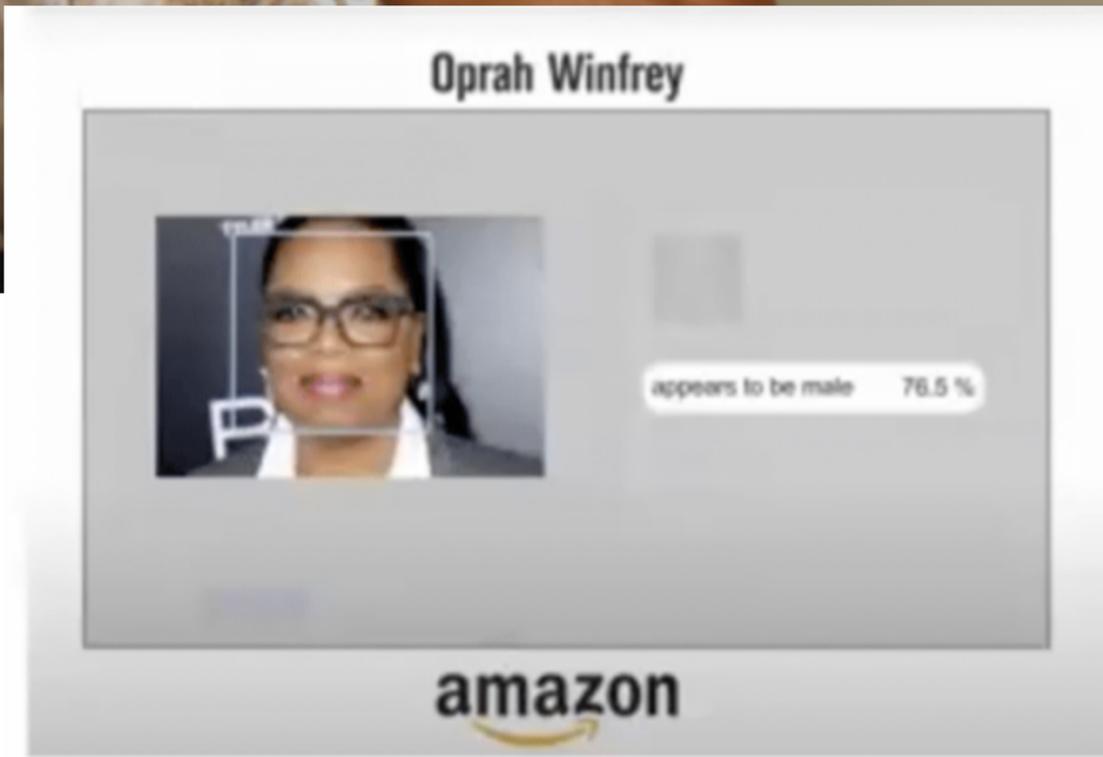
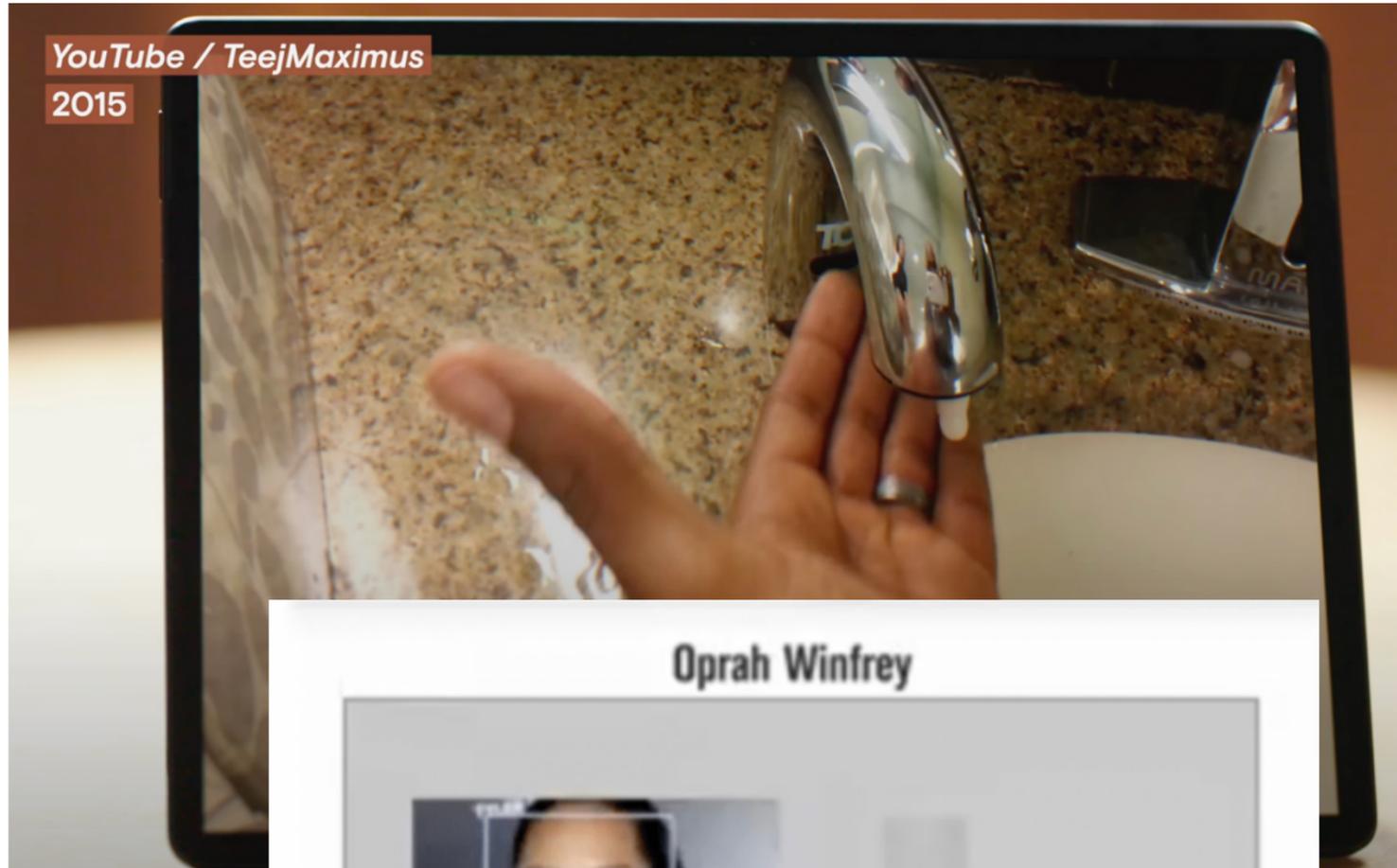
Export your model for your projects: sites, apps, and more. You can download your model or host it online.

[Video: Export your model](#) ▶

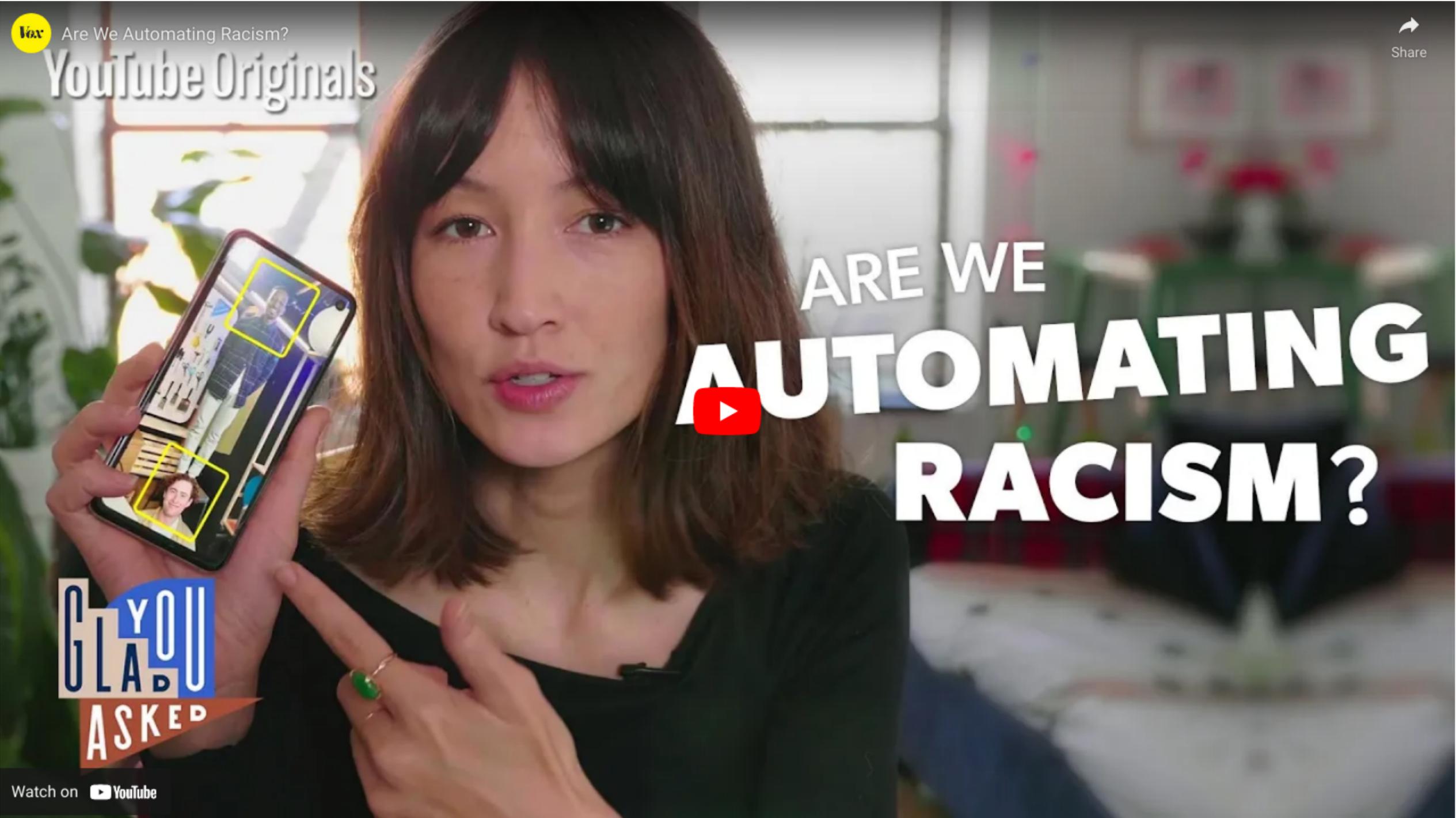
# Teachable Machine

- 1. Create a class that is called "Smile" and a class called "Sad"**
- 2. For the happy class, only include 2 images of you smiling**
- 3. For the sad class, include 40 images of you smiling**

# Is AI amplifying racism?

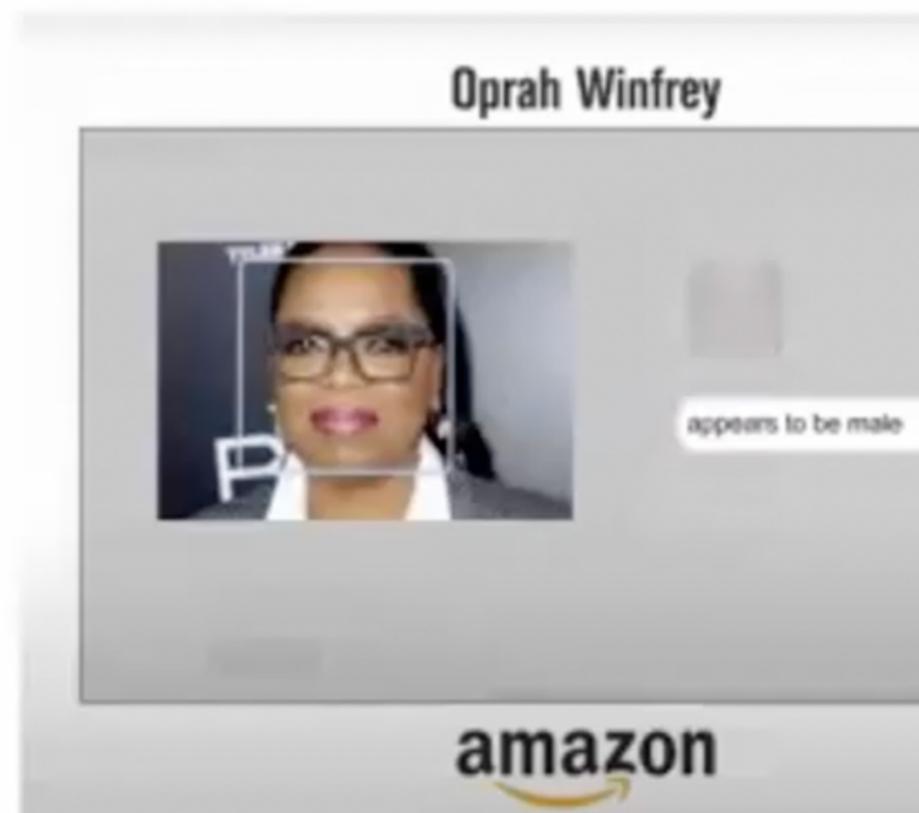


# Are we automating racism?



# Why can't AI recognize African American women?

1. The data used to train the AI is bias
2. Lack of diversity in who is creating AI



# HOW MACHINE LEARNING WORKS



# HOW MACHINE LEARNING WORKS

**Police Brutality  
Lynching  
#SayHerName**



## Lack of diversity in AI

Meet the remarkable African American Women of @nasa who made John Glenn's inaugural orbit around Earth possible



Oprah Winfrey



appears to be male 76.5 %

amazon

# Mass incarceration



Bernard Parker, left, was rated high risk; Dylan Fugett was rated low risk. (Josh Ritchie for ProP)

# Machine Bias

There's software used across the country to predict future criminals. And it's biased against blacks.