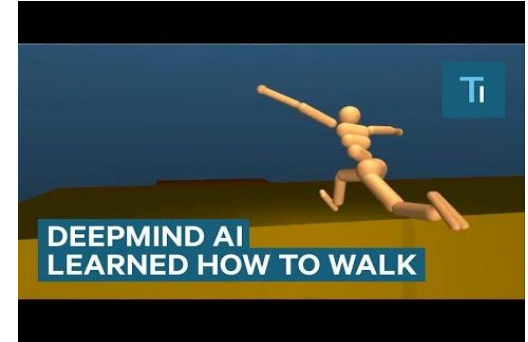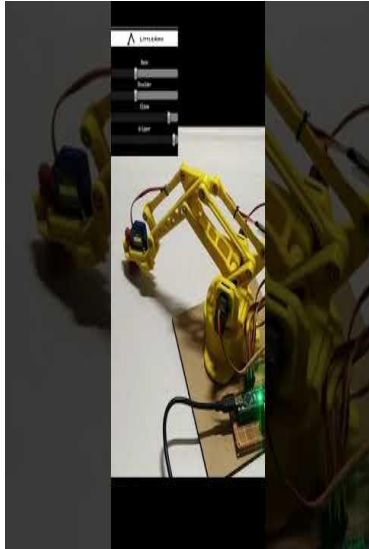# Google Desk Talk: Artificial Intelligence & Machine Learning

Artificial Intelligence

Ability of computers to complete tasks in the real world!

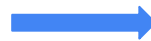

DEEPMIND AI LEARNED HOW TO WALK

Google

What is Machine Learning?

- A core component of Artificial Intelligence
- **Uses data to solve real-world tasks.**
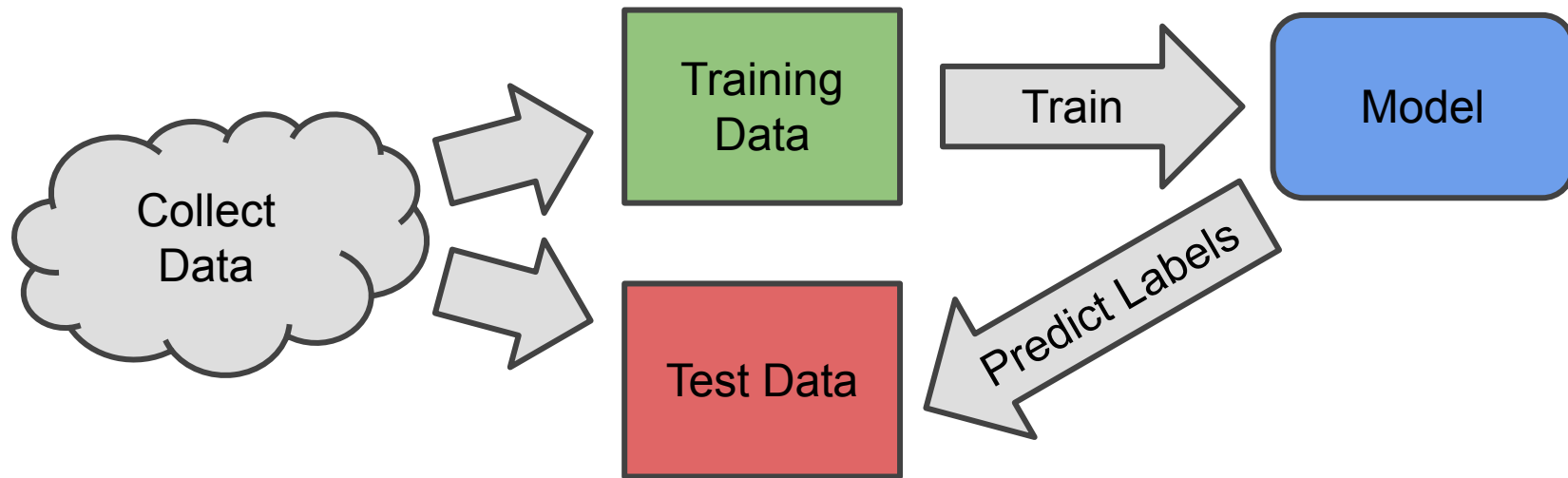 - For example, a task is to predict the label of data.

 → Cat

 → Dog

 → Bird

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How do we do this?

Collect Data → Training Data → Train → Model

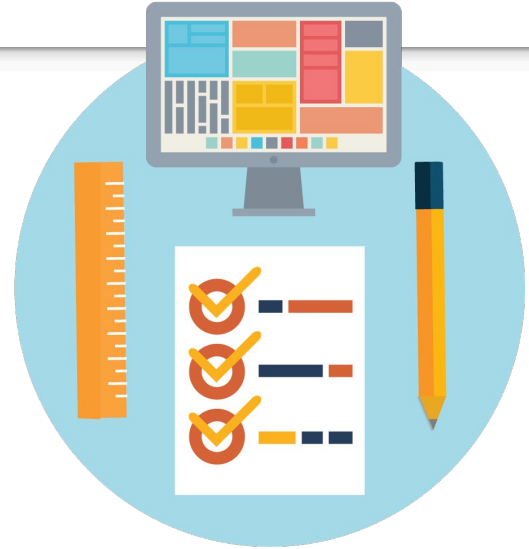Collect Data → Test Data ← Predict Labels ← Model

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What is Data?

Facts and measurements that are collected!

Examples:

- **Stores** collect data on which items are selling
- **Weather stations** collect data on temperature and rainfall
- **Teachers** grading papers = collecting data!
- **Health scientists** collect data on how many people are sick, recovering

Collect Data

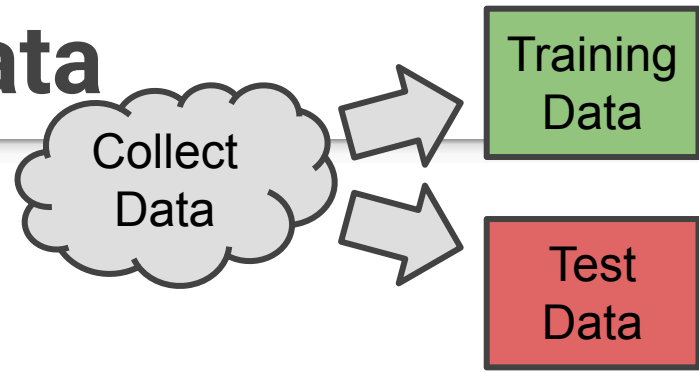What other type of data can you think of?

What Data Do You Need to Collect?

- Data with labels for the task that you are trying to solve
- For example, task is to predict what animals are in the image, then labeled data is:
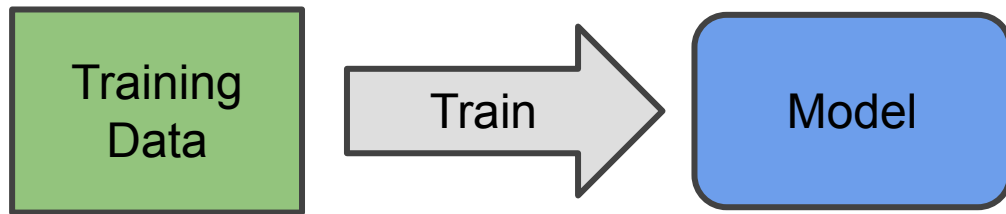

Labels

Collect Data

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Training Data vs Test Data

- Just a split of collected data randomly into two sets
- Used for different purposes

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What does training a model mean?

- Use the training data to find a model that predicts the label well
  - Measure loss of model over the data!

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Recap

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