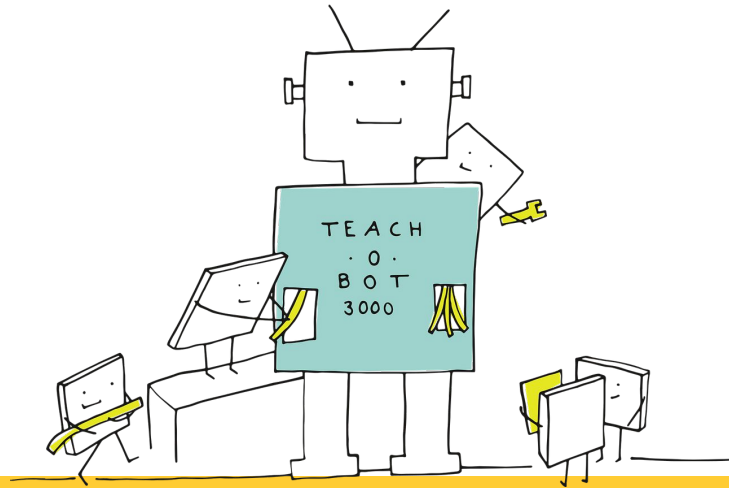# What is Machine Learning?

What is a Machine Learning Algorithm?

- An algorithm that can learn from data

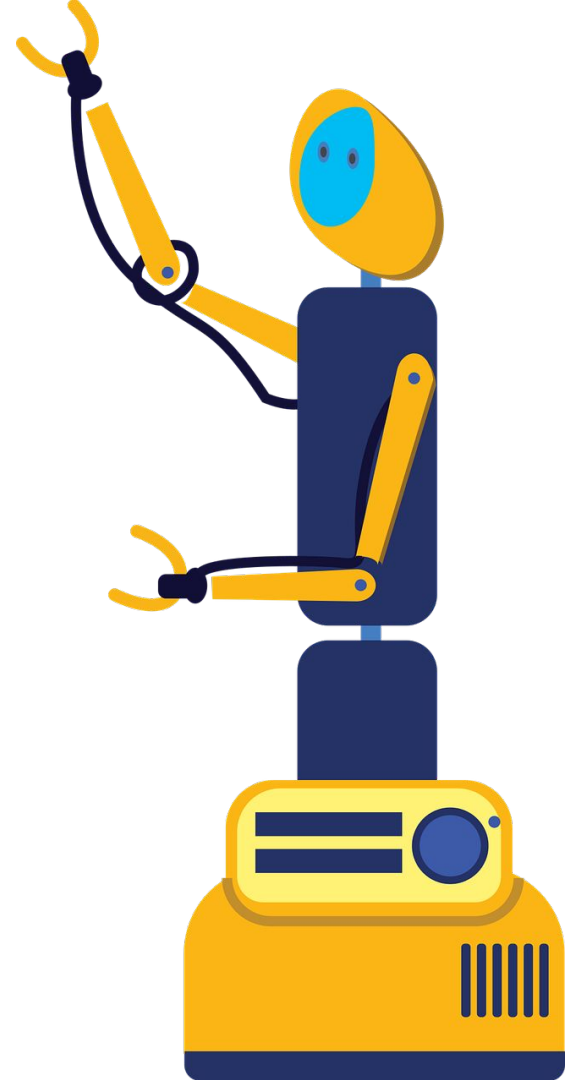# Machine Learning Seeks to Answer...

- How can we build computer systems that automatically improve with experience?

- What are the laws that govern all learning processes?

Examples of Machine Learning

- **Data mine historical medical records to learn which treatment you will best respond to**

- **Build search engines that automatically customize to your interest**

Examples of Machine Learning

- Design autonomous robots that learn to navigate from their own experience

When should you use machine learning?

- **When the software is too complex to manually design**

- **When the software should change after it is released**

3 Branches of Machine Learning

- **Supervised Learning**

- **Unsupervised Learning**

- **Reinforcement Learning**

Workflow

- **Gather Data**

- **Preprocess Data**

- **Train Data**

- Train Model

- Test Model

  - **model/parameter tuning loop**

- **Deploy Model**

What is Machine Learning? ✓