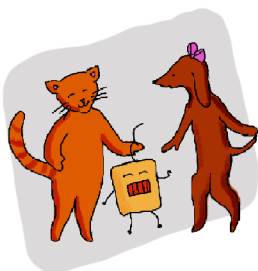


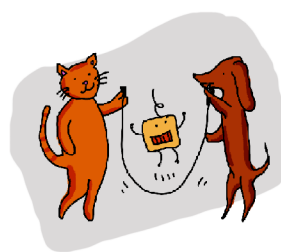
INTRODUCTION TO AI



Have you heard of artificial intelligence, or 'AI'? AI is already around us. These are the intelligent systems that can help us learn, play, and even create art.



Alpha Go is an example of an AI system that can play complicated computer games against human opponents. And some bots have even been trained to create visual art.



Do you think you can be friends with an AI? Let's try to create an AI friend for ourselves. We will teach it to like the same food as we do and appreciate our favorite toys!



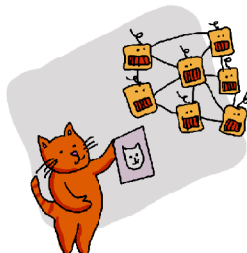
Artificial Intelligence is a science that studies how to develop intelligent systems. There are two branches of this science: AGI which is closer to philosophy, and Applied AI which focuses on the computer science and mathematics behind these systems.



There are two major approaches to AI: Knowledge Representation which is "Top-Down" and Neural Networks which are "Bottom-Up". For example, a top-down rule-based system can decide if you should go to school today based on how you feel. Neural networks, on the other hand, can recognize how many cats are in a picture.



Human beings have two layers of intelligence that is similar to the two types of AI: subconscious intelligence, (like neural networks) and conscious intelligence (like rule-based reasoning).



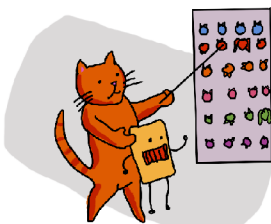
How do neural networks work? They are a collection of electronic neurons, a little similar to the neurons in a human brain. To recognize a cat in a picture, we connect each pixel in the image to a neuron.



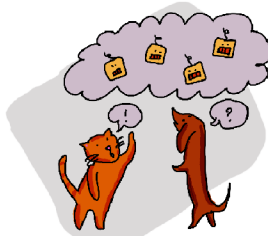
You might hear about a type of neural network called 'Convolutional networks'. These networks extract small patterns that they discover (cats mostly have two eyes and four paws, for example).



Let's build a simple robot that will be our friend. It will be able to recognize an image and react to it. We will train it to recognize our favorite toys or food, or the food that we don't like, and react accordingly!



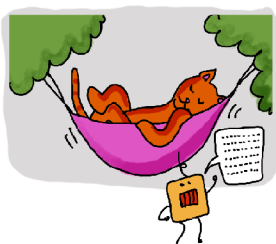
Follow the tutorial to train your robot! You can make it recognize various candies by their wrappers, for example.



AI systems can do many things other than recognizing candy. a useful thing it can also do is recognize speech and extract meaning from it. With your parents, you can use the cloud to build a speech recognizer that can recognize a voice.



You can make a rules-based robot simulator by creating a list of rules that your robot needs to follow.



Bots can make your life a little easier! You can use your bot to help you with your daily tasks, or to help you with your daily chores.



Programming an AI system can be simple, but it can also do incredibly interesting things, like creating a virtual assistant, or asking a bot to draw something based on a few words you provide.



AI will not replace a human, but it can be a great assistant to help you with your daily tasks.