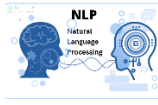
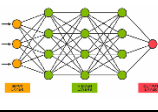
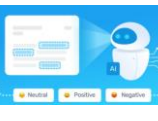
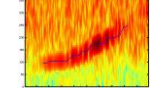
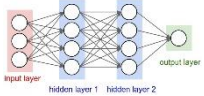
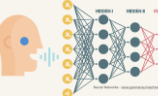
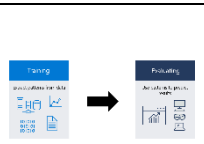


We are AI developers

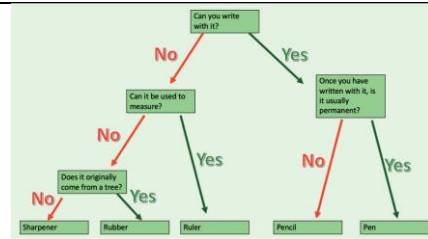
Prior Knowledge

You encountered classification trees and **image recognition** in **Unit 2.6: We are zoologists**. You encountered the self-driving car Scratch program in **Unit 3.2: We are bug fixers**. You may have made use of speech recognition in **Unit 6.3: We are publishers**.

Key Vocabulary:

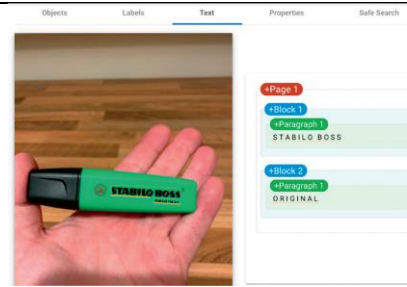
artificial intelligence		the study of automated systems that perform actions which require intelligence when performed by humans	natural language processing		machine learning applications concerned with human language, such as identifying the sentiments or emotions in a piece of text or interacting in a conversation
classifier		machine learning model which assigns an input to one of a number of distinct classes	neural network		group of machine learning algorithms, based loosely on the brain, that recognise patterns. The functions change during the training process to improve the accuracy of the model
decision tree		branching sequence of questions used to determine to which class an item belongs	node		individual 'neuron' in an artificial neural network, accepting inputs and using a function to determine output
image recognition		machine learning application in which images are classified. Examples include facial recognition and optical character recognition	sentiment analysis		application of natural language processing which attempts to identify the broad emotional tone of a piece of text
label		the name given to examples in a group in a machine learning classifier	spectrogram		representation of audio showing the different frequencies present
layer		group of nodes/'neurons' in a neural network all the same 'distance' away from the input nodes	speech recognition		application of machine learning in which speech is transcribed to text
machine learning		approach to artificial intelligence in which the relationship between input and output of a computer system is determined by the data provided to the system, rather than by the program directly	test data		examples given to a machine learning system to determine how good the model is at determining output from input
model		the way a machine learning algorithm relates input to corresponding output, based on the training data it is provided with	training data		data provided to a machine learning system to develop the specific model it uses to relate input and output
			Watson		IBM's cloud-based machine learning platform

Key learning: What are the advantages and disadvantages of artificial intelligence?



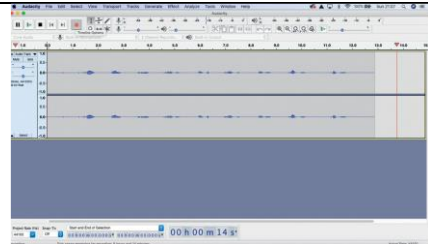
Session 1: Creating a decision tree classifier

What is artificial intelligence?



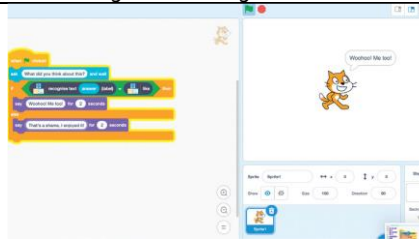
Session 4: Exploring image recognition using Vision API

How do we train a computer to recognise the difference between two distinct images?



Session 2: Looking at different frequencies (notes) of phonemes

What is machine learning?



Session 5: Creating a Scratch project to respond to whether you like something

How do we train a computer to understand our likes and dislikes?



Session 3: Learning about neural nets using postcards

How is machine learning data split up?



Session 6: Programming a self-driving car in Scratch

What do you think will be the effect of AI on the world?

Key Applications (apps)



Machine learning for kids website



Next Steps

Building on what you have learned in your computing lessons in High School.