Machine Learning For Kids :: Teachers' notes

Worksheet	Smart Classroom
Activity	Create a smart assistant in Scratch that lets you control virtual devices.
Objective	**Teach a computer to recognise the meaning of your commands** • How computers can be trained to recognise the intent behind writing. • Confidence thresholds indicate when the machine cannot recognise the meaning. • How virtual assistants (e.g. Apple Siri, Amazon Alexa, Google Home) work.
Difficulty level	Beginner
Time estimate	1 hour (for full version of the project, where students try making it without machine learning first) or 45 minutes (if students only make a machine learning project)
Summary	Students will train a machine learning model to recognise the meaning of instructions. They will use this in Scratch to make a virtual assistant like Alexa that will respond to commands.
Topics	digital assistants, confidence thresholds, supervised learning

Setup

Each student will need:

	Print-outs	Project worksheet (download from https://machinelearningforkids.co.uk/worksheets) Blocks in Scratch scripts are colour-coded, so printing in colour will make it easier for students. There are **two versions of the worksheet** – one that assumes students will try making the assistant without machine learning first and compare, the other assumes students will only use machine learning.
	Files	Starter file (download from https://machinelearningforkids.co.uk/worksheets)
	Access	Username and password for machinelearningforkids.co.uk

Class account will need:

	API keys	**Watson Conversation** 1 workspace per student One "Lite" API key is free but can only be used to create 5 workspaces One "Standard" API key can be used to create to create 20 workspaces more detail at: https://github.com/dalelane/ml-for-kids/raw/master/doc/machinelearningforkids-apikeys.pdf

Help

Potential issues	• No known issues General troubleshooting and help at https://machinelearningforkids.co.uk/help