Machine Learning For Kids :: Teachers' notes

Worksheet	Sorting Hat
Activity	Create a Sorting Hat like in Harry Potter, that puts you in a school House based on what you say.
Objective	**Teach a computer to recognise use of language** • How computers can recognise patterns such as choice of words, phrasing and sentence construction
Difficulty level	Intermediate It can involve a lot of typing.
Time estimate	1 – 2 hours (if students are training their own models, depending on how fast they can type) or 45 minutes (if students work together on a whole class project)
Summary	Students will collect quotes from Harry Potter characters, and sort these based on the school House that the character is in. These will be used to train a machine learning model to recognise the use of language from people in each house.
Topics	text classification, supervised learning, crowd sourcing

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 work individually, the other assumes students will work together as a whole class.
Resources	Access to Harry Potter books or access to websites with Harry Potter quotes
Access	Username and password for machinelearningforkids.co.uk

Class account will need:

API keys	**Watson Conversation** 1 workspace per student (if students are training their own models) or 1 workspace per class (if students work together on a whole class project) 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	• Approximately 40 sentences are needed for training (10 examples x 4 Houses). If students are each doing this individually, you should allow enough time for this much typing. Copying-and-pasting quotes from websites can be quicker. • If students aren't happy drawing a Sorting Hat, they could find a photo to use General troubleshooting and help at https://machinelearningforkids.co.uk/help