Machine Learning For Kids :: Teachers' notes

Worksheet	Judge a Book
Activity	Make a game in Scratch to test whether it really is possible to judge a book by its cover.
Objective	**Teach a computer to recognise visual style** • How effectiveness of a machine learning system can be measured by comparing performance against humans.
Difficulty level	Intermediate The Scratch script is slightly complex. The term "genres" may require explanation. The idea of measuring performance by comparing answers against those of another human can require some explaining.
Time estimate	1 hour
Summary	Students will use a library or book retailer website to collect photos of book covers, and use these to train a machine learning model to recognise the genre of a book, based on a picture of it's cover. They will use this to make a project in Scratch.
Topics	image classification, 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.
Files	judge-a-book.sbx (download from https://machinelearningforkids.co.uk/worksheets)
Access	Access to a library or book retailer site (e.g. Amazon, etc.)
Access	Username and password for machinelearningforkids.co.uk

Class account will need:

API keys	**Watson Visual Recognition** 1 custom model per student One "Lite" API key is free but can only be used to create 1 custom model One "Standard" API key can be used to create to create multiple custom models more detail at: https://github.com/dalelane/ml-for-kids/raw/master/doc/machinelearningforkids-apikeys.pdf

Help

Potential issues	• Students will need Internet access to search for pictures of book covers to train the computer with. Depending on the age of the students, close supervision may be appropriate to ensure safe searching. • Using a site that already sorts books by genre can help to make the training more efficient. General troubleshooting and help at https://machinelearningforkids.co.uk/help