

Machine Learning For Kids :: Teachers' notes

Worksheet	Locate Larry
Activity	Make a Where's Wally? game in Scratch, and teach the computer to find your character.
Objective	Teach a computer to find something in a picture <ul style="list-style-type: none"> How computers can be trained to recognise pictures. How image pre-processing is used to find a small item in a larger picture
Difficulty level	Intermediate The project is reasonably straightforward, but builds on being able to do image classification of individual images. It's better used as a follow-on project to another images project.
Time estimate	1 hour
Summary	Students will make a Scratch project that generates a scene, cuts it into a grid of smaller squares, and trains an image classifier on those grid squares.
Topics	image classification, supervised learning, image pre-processing

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	locate-larry.sbx (download from https://machinelearningforkids.co.uk/worksheets)
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 multiple custom models more detail at: https://github.com/daledlane/ml-for-kids/raw/master/doc/machinelearningforkids-apikeys.pdf
-----------------	--

Help

Potential issues	<ul style="list-style-type: none"> "https://machinelearningforkids.co.uk" is a long URL to type for some children. You may find it easier to set up a bookmark that they can click on instead. <p>General troubleshooting and help at https://machinelearningforkids.co.uk/help</p>
-------------------------	--