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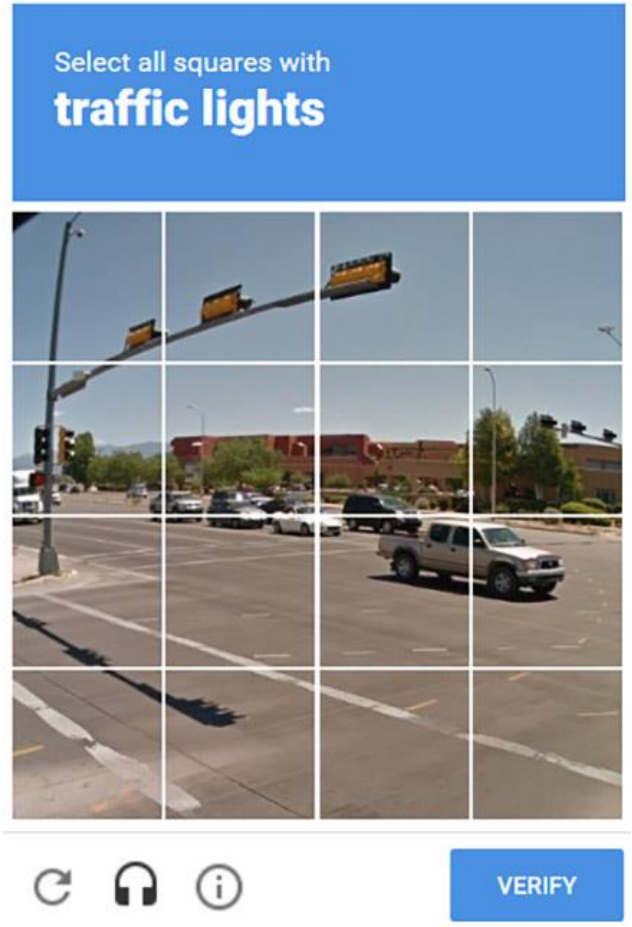
Machine Learning

You Actually Teach Google!

When you're on Google you usually see things like this..

This is actually a way for Google to use you to teach their machines!

You are creating a huge dataset that can be used in a multitude of ways such as teaching driverless cars!



What is Machine Learning?

Machine Learning

Machine Learning is a system with the ability to automatically learn and improve from experience without being explicitly programmed.

Machine Learning focuses on the development of computer programs that are provided with data and use it to learn by themselves.

Do You Know Any Machine Learning Systems?

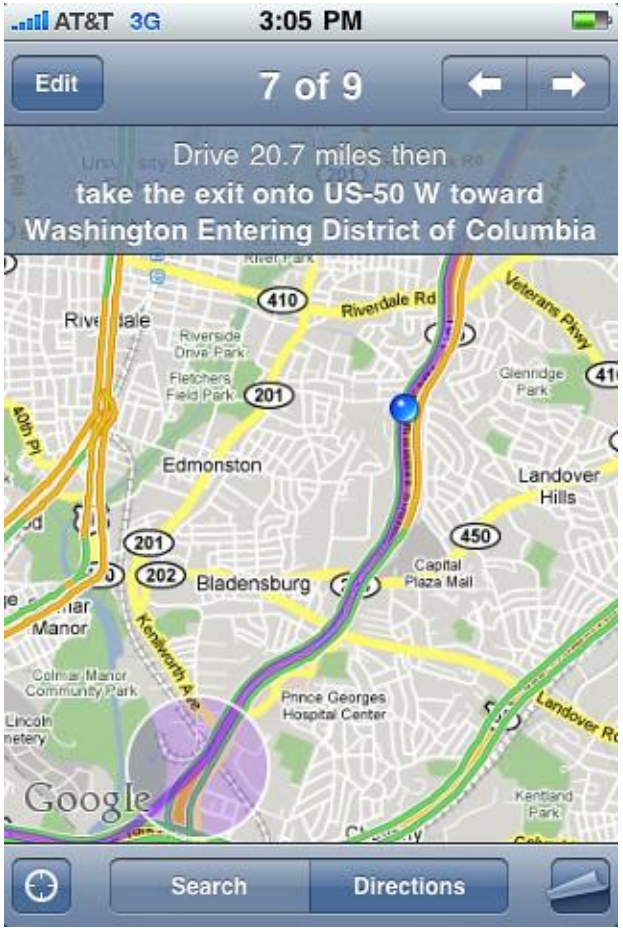
Current Machine Learning Systems
Virtual Personal Assistants

- Siri is a voice-activated assistant.
- Siri listens to your instructions, and, when possible, carries them out.
- Siri can open apps, play your favourite music and can even tell you a joke.

Current Machine Learning Systems
Google Maps

Google can use user's location data for things like:

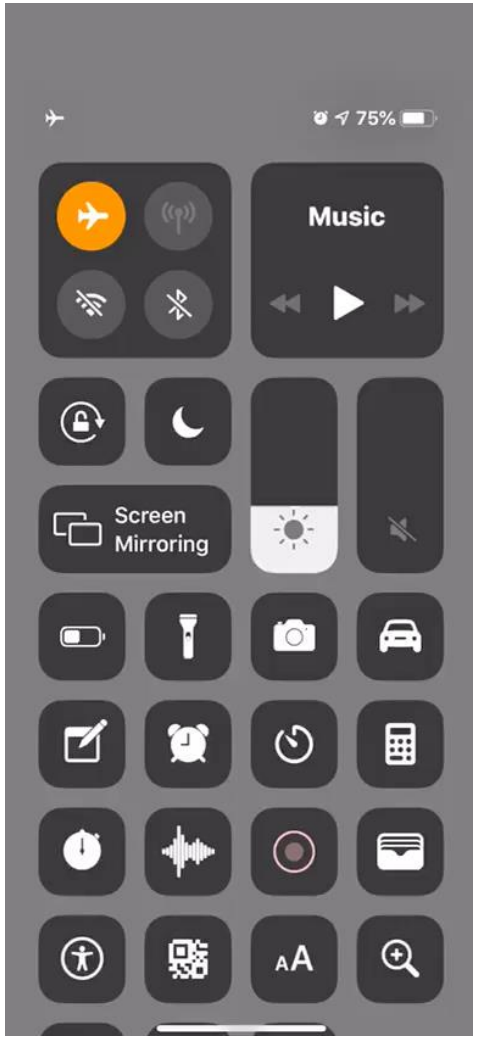
- real-time traffic updates,
- estimating current traffic speeds, and
- adjust directions accordingly.



Machine Learning Games

- Draw It - mobile app.
- Players compete with one another in an online real time drawing game.

- The goal is to draw one of the two categories given, so that the computer can make an accurate guess.
- The computer is taught through ML to recognise drawings.

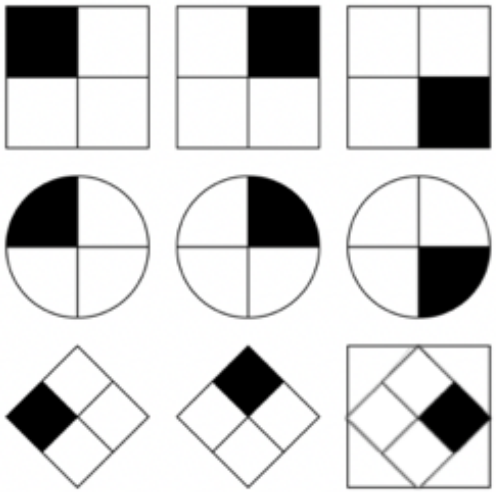


Click to play video.

How Do You Think Machine Learning Works?

Pattern Recognition

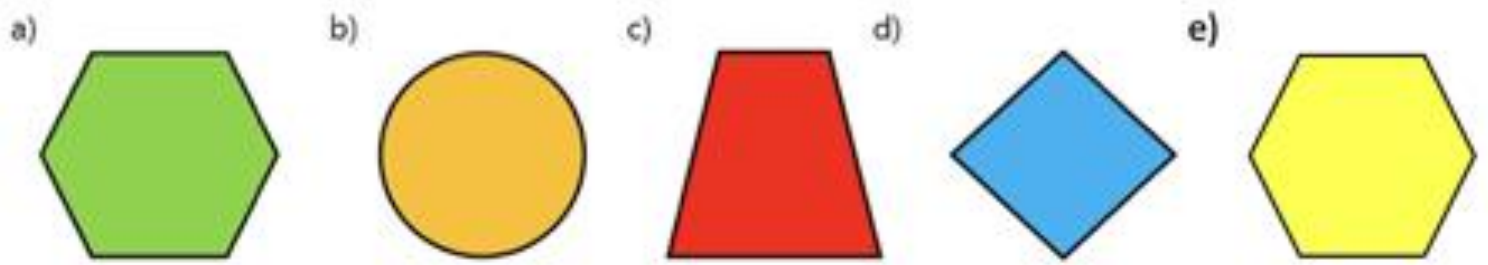
Pattern recognition is the ability to recognise patterns in data.



Computers can learn from patterns, for example a computer can learn the difference between photos, such as the shapes and the colour used.

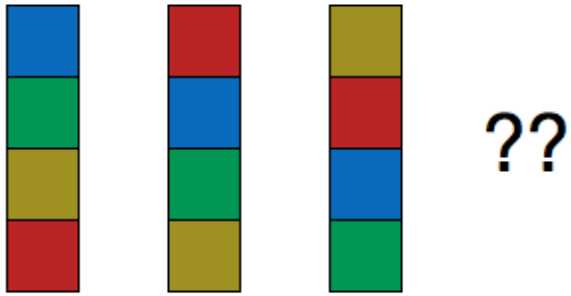
Activity: Pattern Recognition (1)

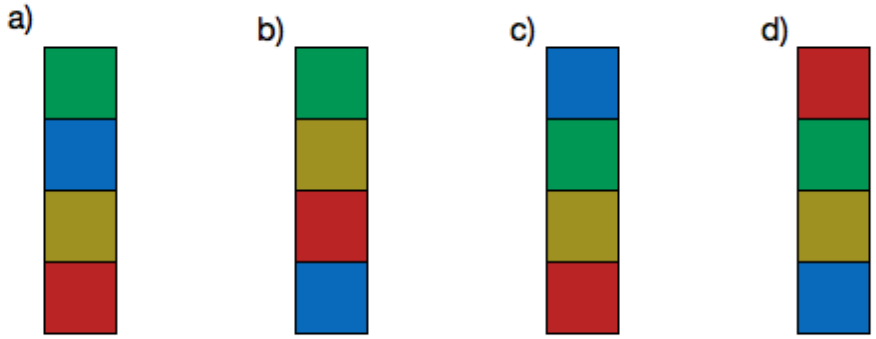
What comes next?



Activity: Pattern Recognition (2)

What comes next?





Turtle or Tortoise

Turtle or Tortoise

We are going to do an experiment, there are two parts to this experiment. For the first part: I will be showing you a series of images one at a time. The images will either be a picture of a turtle or a tortoise.

I want you to tell me if you think it is a turtle or a tortoise.

Now you may already know the major differences between them but please do not share those details for now, just respond simply with either ‘turtle’ or ‘tortoise’.

Turtle or Tortoise

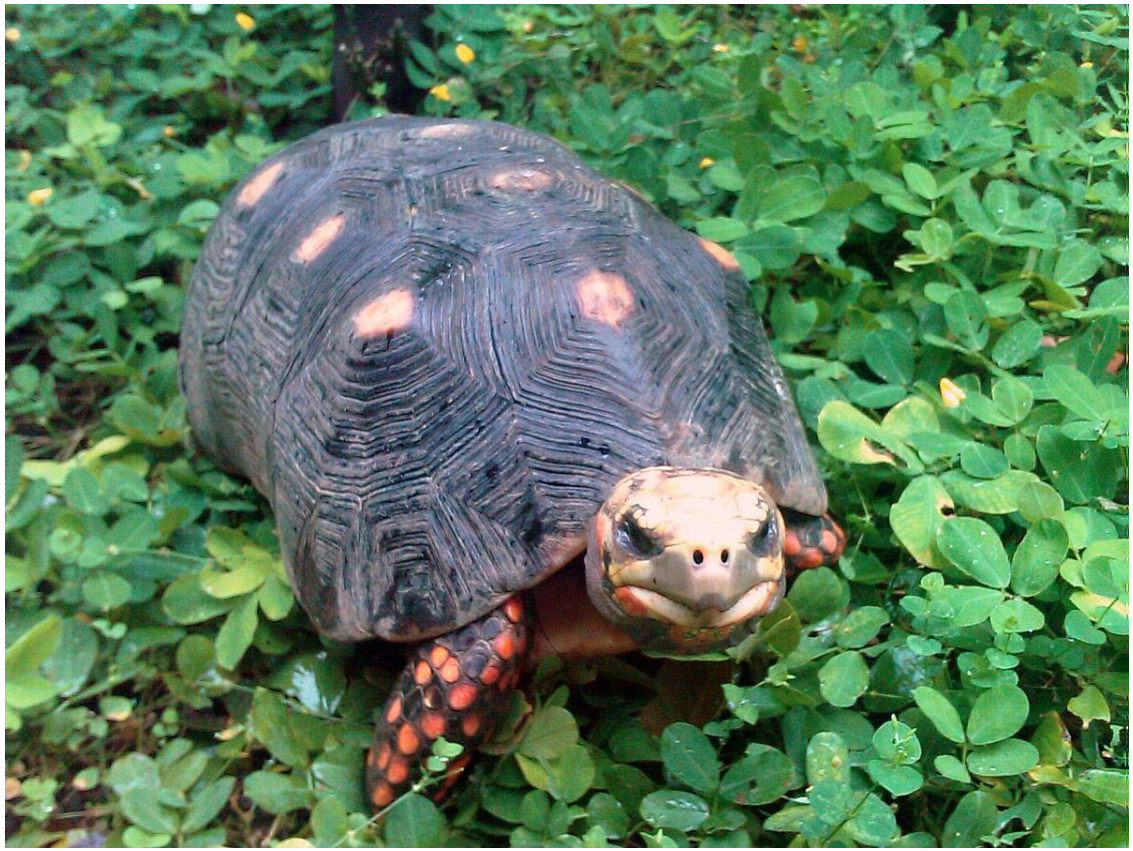
Turtle or Tortoise

Turtle or Tortoise

Turtle or Tortoise

Turtle or Tortoise

Turtle or Tortoise



Turtle or Tortoise

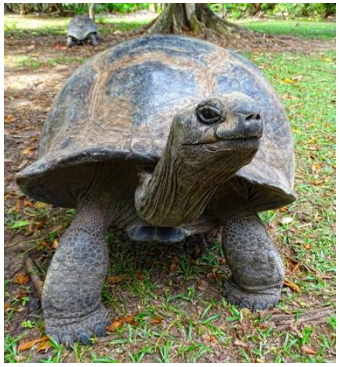
Turtle or Tortoise

How many did you get right?

Turtle or Tortoise

Turtle

Tortoise



Turtle or Tortoise (Part 2)

Turtle or Tortoise (Part 2)

Part 2: We are going to do the same experiment but this time I am going to provide a set of images that are 100% turtles, and another set that are 100% tortoises. The aim is to provide data that will help you make an informed guess.

I will again be showing you a series of images one at a time. The images will either be a picture of a turtle or a tortoise. I want you to tell me if you think it is a turtle or a tortoise.

Now you may already know the major differences between the two but please do not share those details for now, just respond simply with either ‘turtle’ or ‘tortoise’.

Turtle or Tortoise

Turtles




Tortoises




?

Turtle or Tortoise (1)

Turtles




Tortoises




Turtle or Tortoise

Turtles





Tortoises




?

Turtle or Tortoise (2)

Turtles





Tortoises




Turtle or Tortoise

Turtles





Tortoises





?

Turtle or Tortoise (3)

Turtles





Tortoises





Turtle or Tortoise

Turtles






Tortoises





?

Turtle or Tortoise (4)

Turtles






Tortoises





Turtle or Tortoise

Turtles







Tortoises





?

Turtle or Tortoise (5)

Turtles







Tortoises





Turtle or Tortoise

Turtles







?

Tortoises






Turtle or Tortoise (6)

Turtles







Tortoises






Turtle or Tortoise

Turtles








Tortoises






?

Turtle or Tortoise (7)

Turtles








Tortoises






Turtle or Tortoise

Turtles








Tortoises







?

Turtles








Tortoises

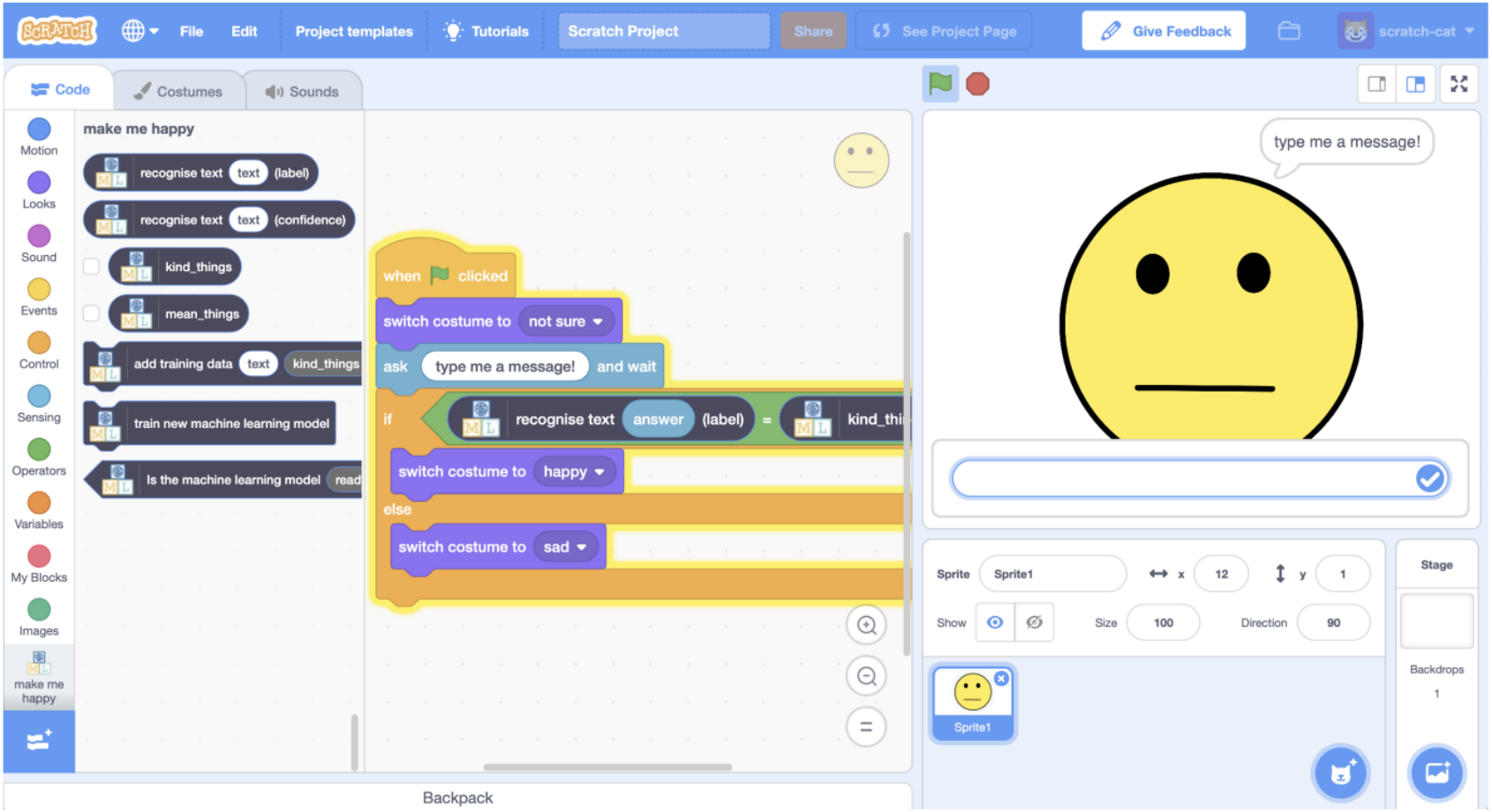






Machine Learning in Scratch

Make Me Happy



Make Me Happy

Go to machinelearningforkids.co.uk

Click on “Get started”.

Click on “Try it now”.

Click on “Projects” on the top menu bar.

Click the “+Add a new project” button.

Name your project “make me happy” and set it to learn how to recognise “text” and click the “Create” button.