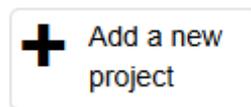


Scratch Picture Guessing Game

Today you will use Machine learning for kids to generate a guessing game in Scratch. The user will draw a picture and then Scratch will guess what it is with a confidence score.

Task 1 - Setting up

1. Go to [Machine learning for kids](#)
2. Click get started -> Try it now
3. Click add a new project and then put in the following details in the image below and click create



Project Name *

Scratch Picture Guessing Game

Project Type *

recognising images

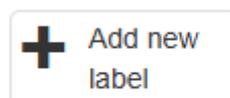
Storage *

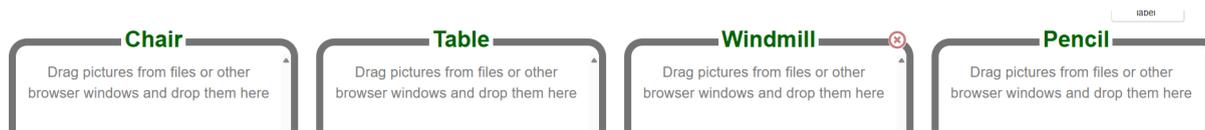
In your web browser

Task 2 - Training

Before we can do anything else we need to tell the computer what it needs to recognise and provide it with examples of what they are. This is called supervised learning.

1. Click Train
2. Use the add new label button to add a new label and create 5 different items you would like your AI to guess. E.g. Chair, Table, Windmill, etc



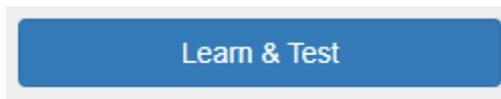


3. Use the draw button at the bottom of each label to draw pictures of the 5 items you want to be recognised. You will need 5 drawings of each!

Task 3 - Learning

Now that the model has been given data to work from we can train it with what those objects look like.

1. Click back to project
2. Click Learn & Test



3. Click Train Machine Learning Model



4. Test your program out by drawing one of the items



5. If your AI is not working properly go back to your training data and change the data. Then complete task 3 again

Task 4 - Using your AI in a program

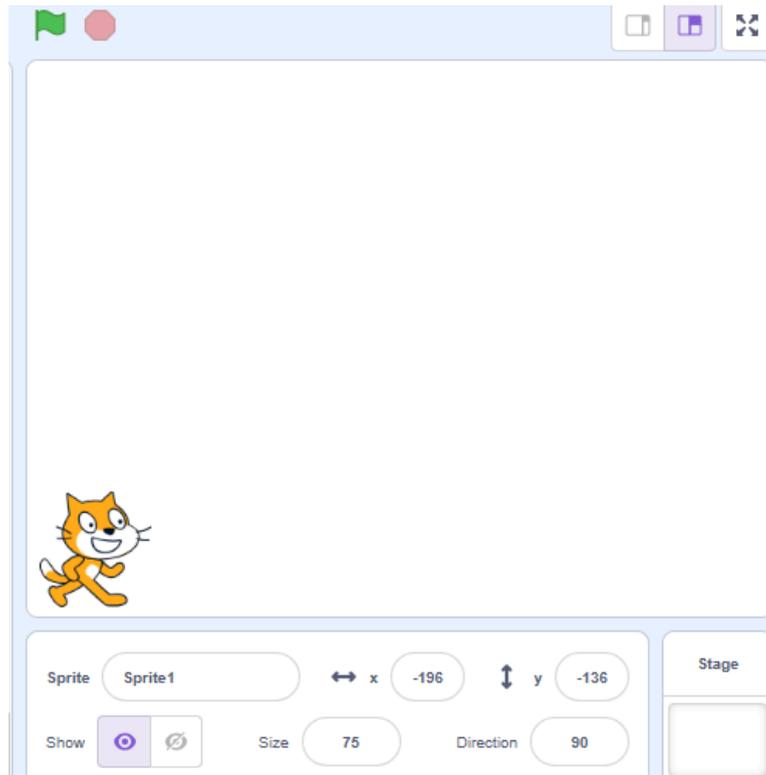
Once your AI is recognising items it is time to start using it in scratch!

1. Click back to project
2. Click Make

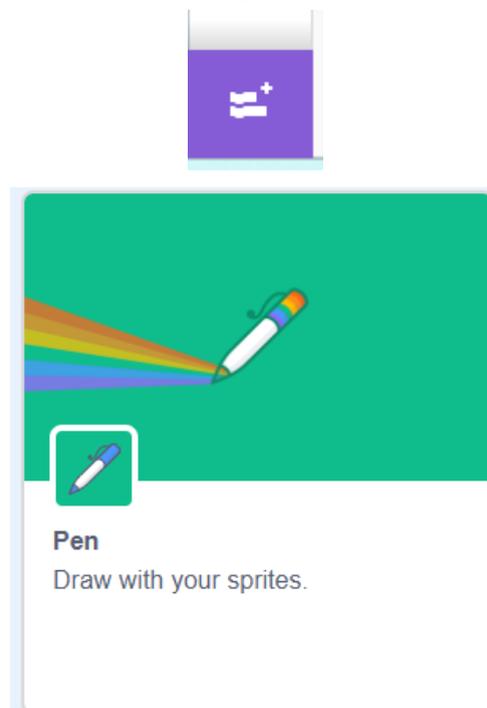


3. Click Scratch and open Scratch 3

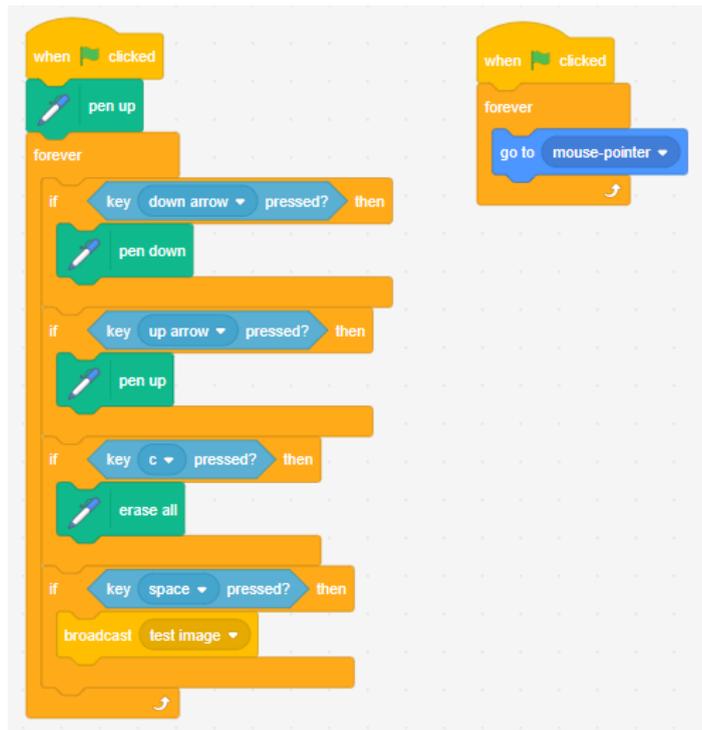
4. Move the cat to the bottom left corner of the screen and reduce his size to 75



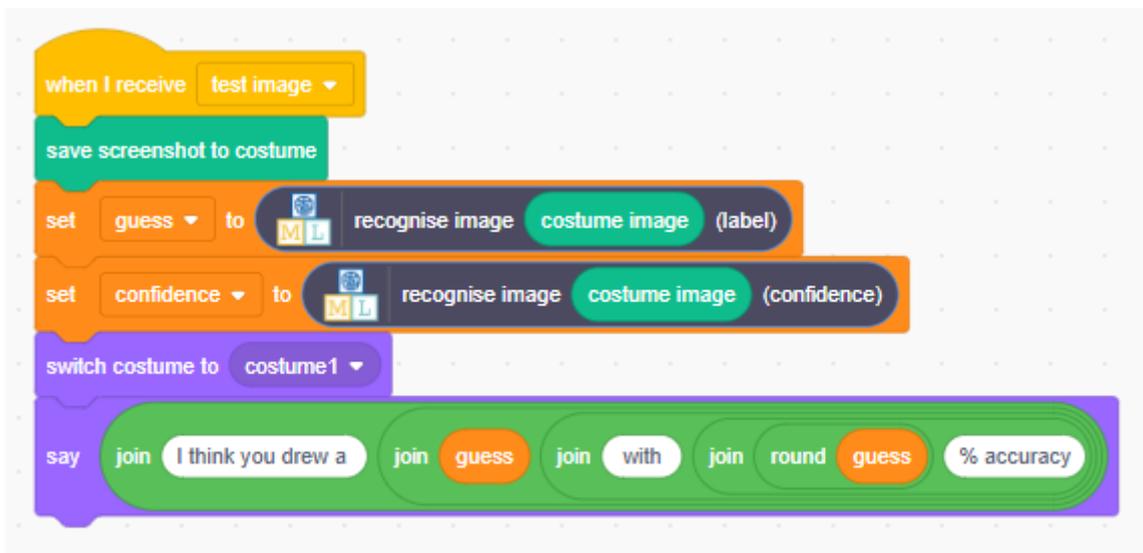
5. Create a new sprite and call it pencil. You can add a sprite if you would like to however it is not necessary
6. Add pen functionality by clicking add extension and then pen



7. Add the following code to the pencil sprite (Write below what you think the code does)



8. Now it is time to get the cat to guess the picture. Create 2 variables called guess and confidence
9. Put the below code on the cat. Write down how you think it works



10. You now have a full working program! Well done, it was hard work!

Task 4 - Extending your program

Use this page to plan out how you could make your program better.

Will you add more labels it can guess from?

Will you add more “if rules” to say the cat does not know if it is under a certain percentage?

Could you add code that will tell the user some instructions on how to use it?