Project 141

DP EDUCATION

Coding School





LIVEWORKSHEETS

Let's create a game to play using hand poses

- Let's create the game by designing as follows.
- Add the Maze backdrop by clicking on Choose a Backdrop.

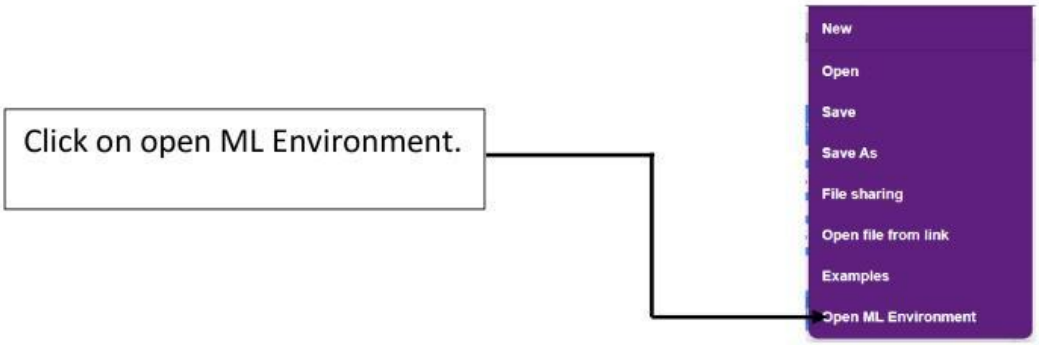


- Add the ladybug1 sprite by clicking on Choose a sprite.
- Adjust the X, Y position and size of the ladybug1 sprite as follows.



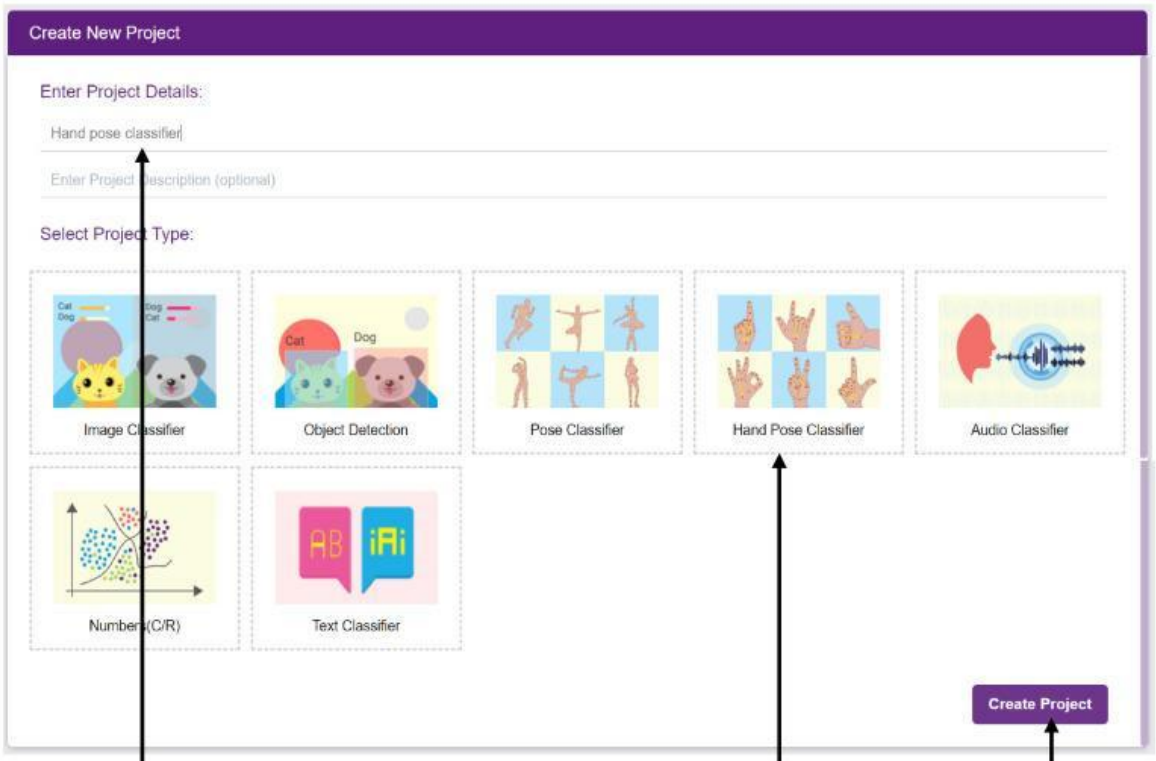


- Now let's train the AI model using hand posse.
- Click on File and select open ML Environment under it.



- Click on Create new project.
- Enter Hand pose classifier for Enter project name and select Hand pose classifier.
- Then click on create project.

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Note as hand pose classifier.

Make hand pose classifier selections.

Click on create project.

- Let's train the AI by giving the relevant Hand pose sample as below.
- Provide as Forward for Class name. Then click on web cam and click on hold to record and give hand pose samples.



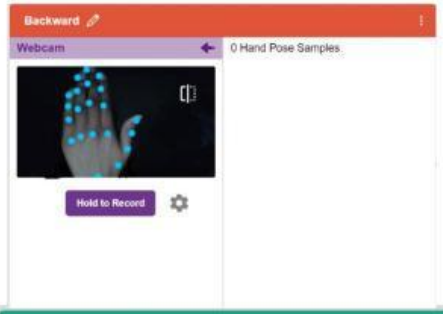
When giving samples for Forward, give samples using the front of the right hand as shown in the diagram. Click on the left mouse button when the samples are finished.

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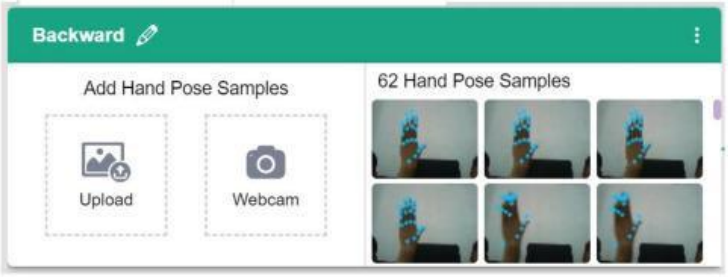


Then the Forward class will appear as below.

- Give Backward for Class name. Then click on web cam and click on hold to record and give hand pose samples.



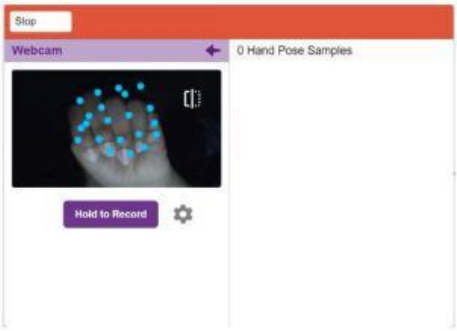
When giving samples for Backward, give samples using the back of the right hand as shown in the diagram. Click on the left mouse button when the samples are finished.



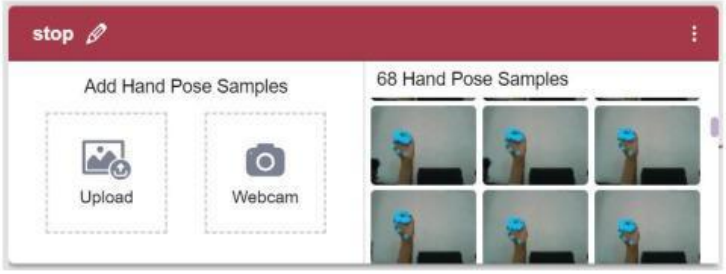
Then the Backward class will appear as follows.

- Give stop for class name. Then click on web cam and click on hold to record and give hand pose samples.

by



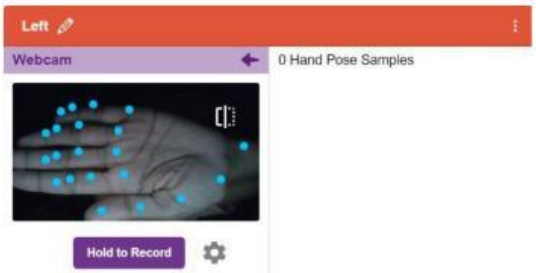
When giving samples for stop, give samples clenching the right hand as shown in the diagram. Click on the left mouse button when the samples are finished.



Then the stop class will appear as below.

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❖ Give Left as Class name. Then click on web cam and click on hold to record and give hand pose samples.

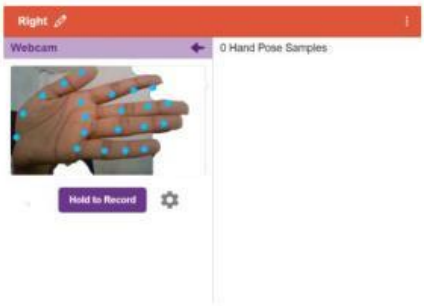


When giving samples for Left, turn right hand to left and give samples as shown in the diagram. Click on the left mouse button when the samples are finished.



Then the Left class will appear as follows.

❖ Give Right for Class name. Then click on web cam and click on hold to record and give hand pose samples.



When giving samples for Right, turn the right hand to the right and give samples as shown in the diagram. Click on the left mouse button when the samples are finished.



Then the Right class will appear as follows.

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Click on Advanced and enter the following values.

Then train the model by clicking on Train model.

Then click on Export model.



- ❖ Let's prepare the code to create the game now.
- ❖ Let's prepare the code for the following events to happen when the green flag is clicked.

  - The recognition window should be open and the camera should be on. Set its transparency to 100%.
  - • Use a forever block as the following events must occur continuously.
  - Prepare the code to move in 5 steps if the detected class is Forward and the position of the sprite is 0 degrees.
  - • If the recognized class is Backward, prepare the code to move by 5 steps and the position of the sprite to be 180 degrees.

  • If the recognized class is left, adjust the code to move by 5 steps and the position of the sprite to be -90 degrees.

  • If the recognized class is Right, prepare the code to move by 5 steps and the position of the sprite to be 90 degrees.

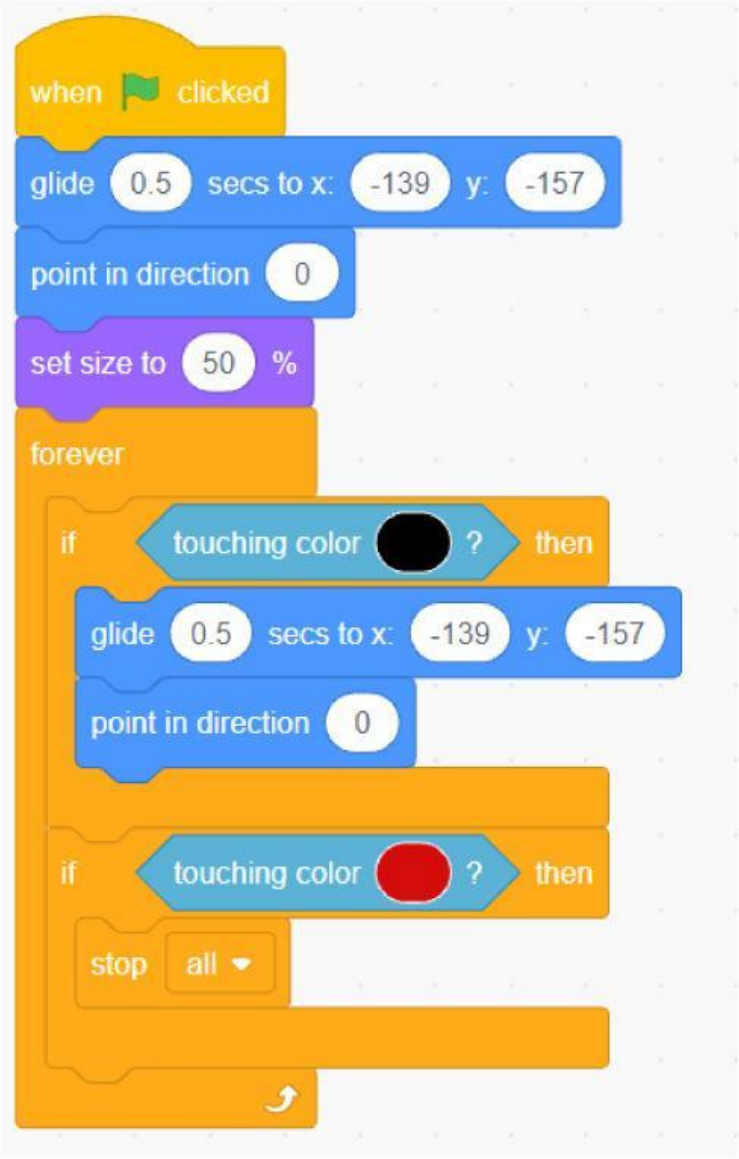
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- Use another when flag clicked block. When the green flag is clicked, make the following code happen
- Give the position X -139 and Y -157.

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- Give the initial position as 0 degrees.
- Set the amount to 50%.
- Use a forever block to continue.
- Adjust the code so that when the ladybug1 sprite is touched in black, the position is X -139 and Y -157, and the degree is 0.
- Prepare the code to stop all positions when the ladybug1 sprite is touched in red.



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