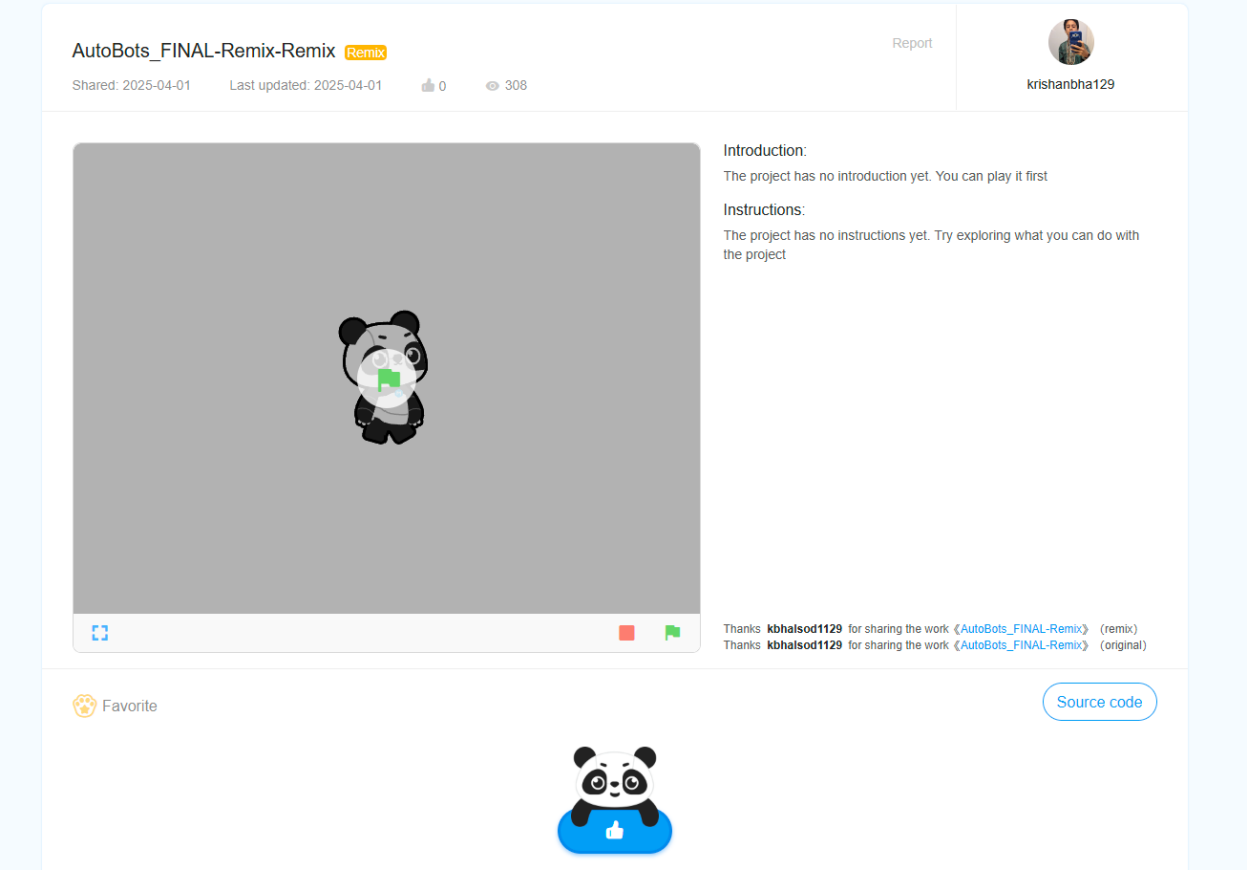
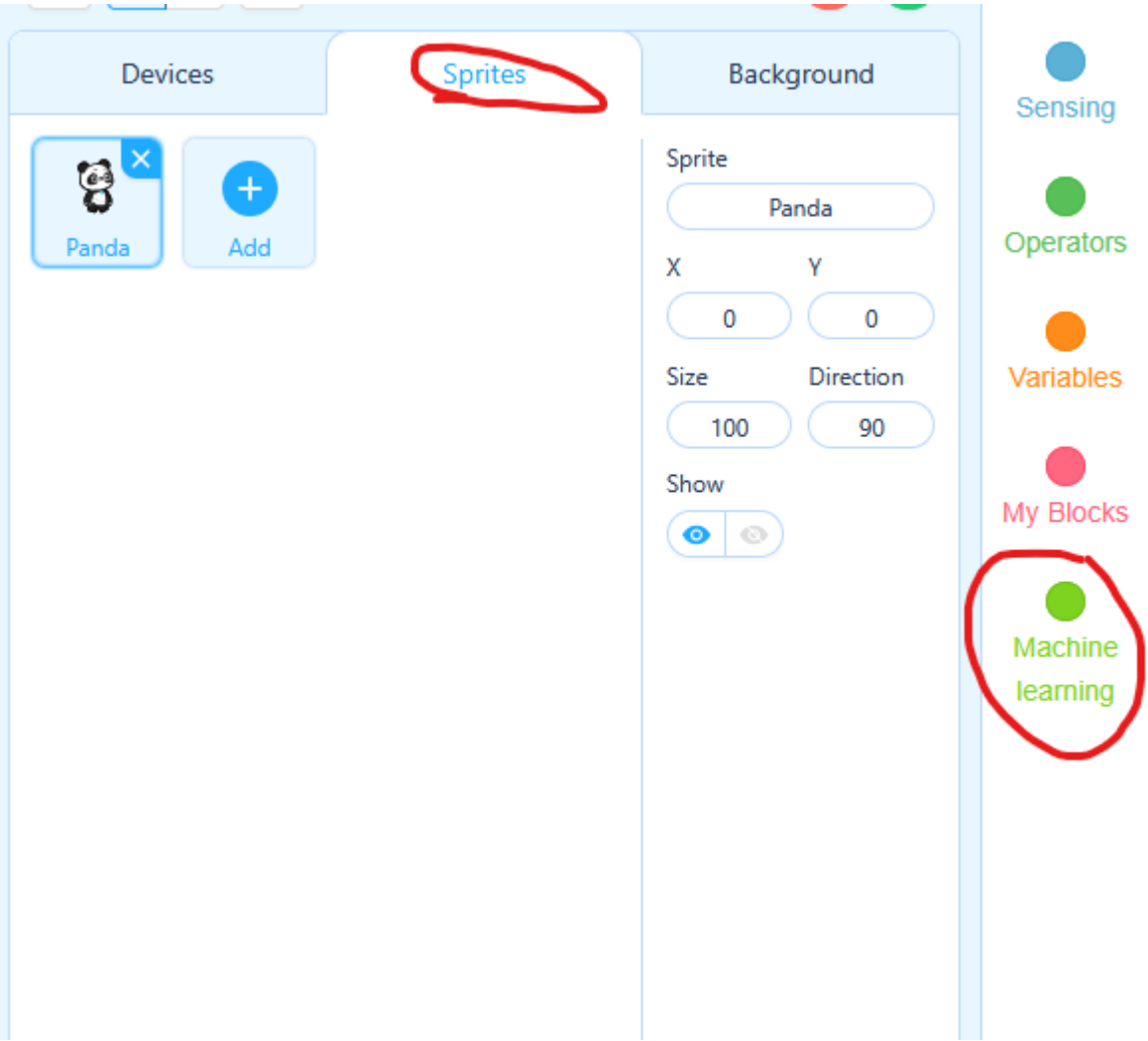
LINK TO SOURCE CODE: https://planet.mblock.cc/project/5574657

Step 1: Visit the link attached above using Google Chrome. It will not work on any other browser (I tried).

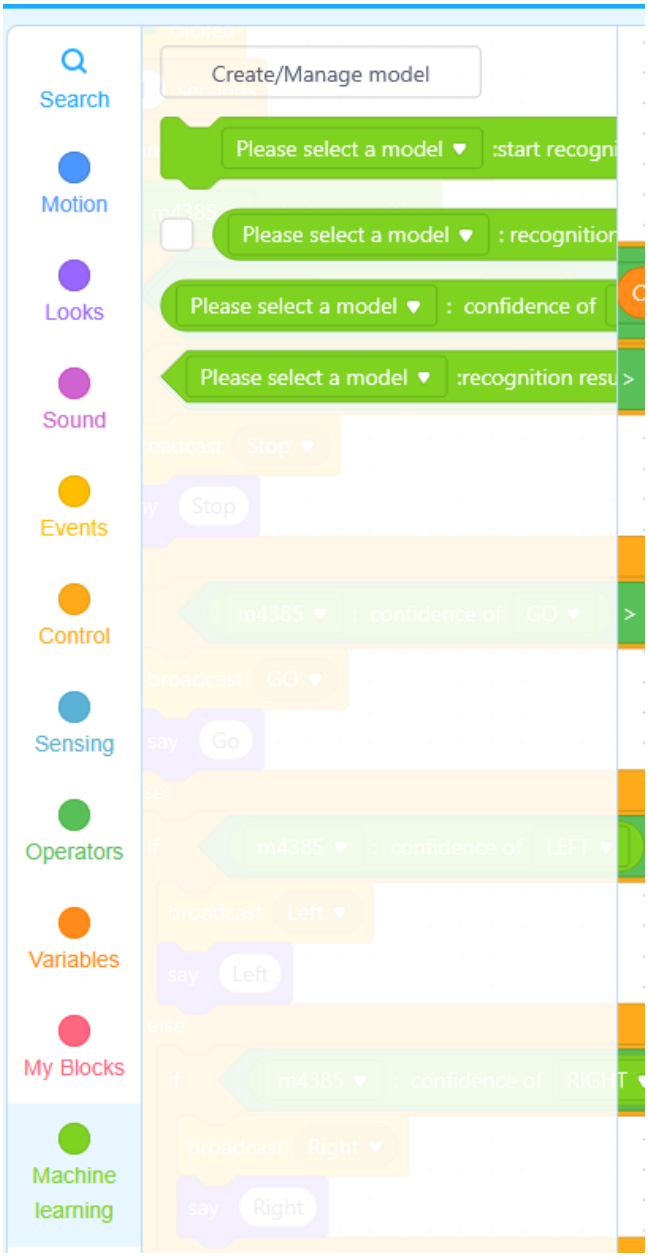
Step 2: Click on **Source Code**



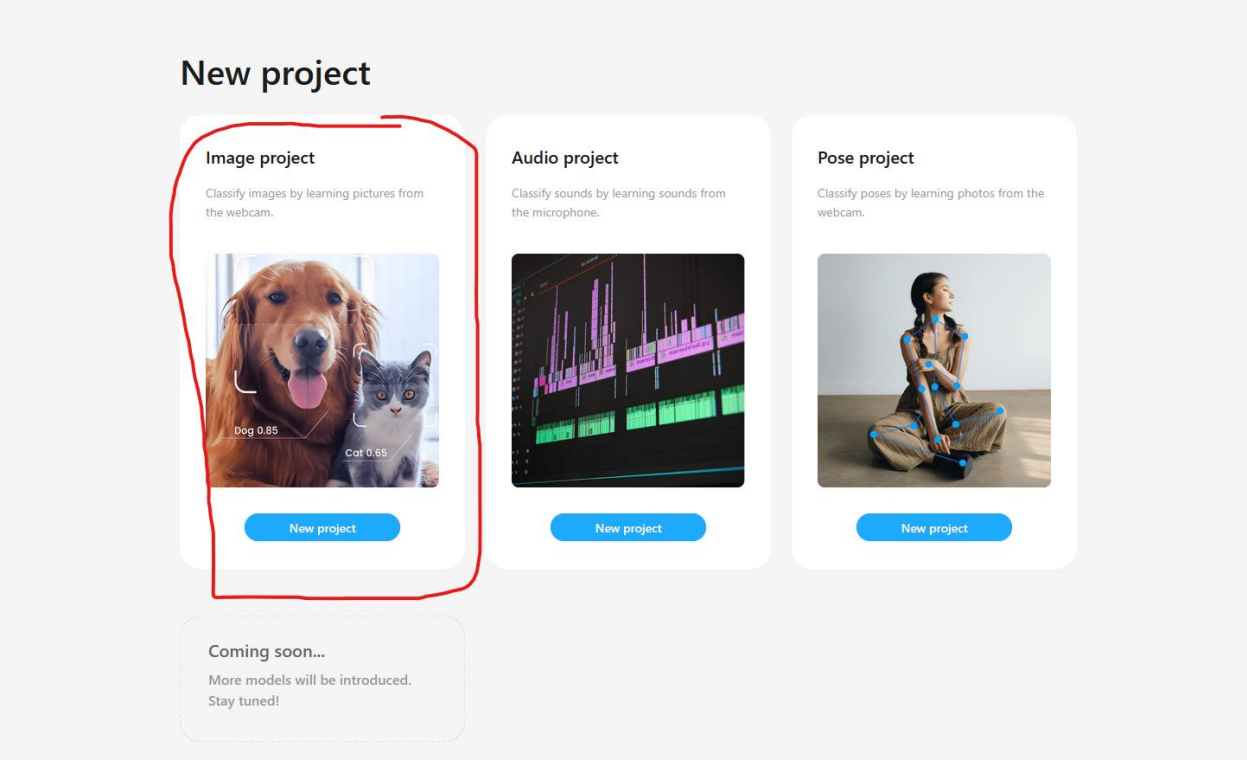
Step 3: Click on the **Sprites Tab** and find the **Machine Learning** section next to it.



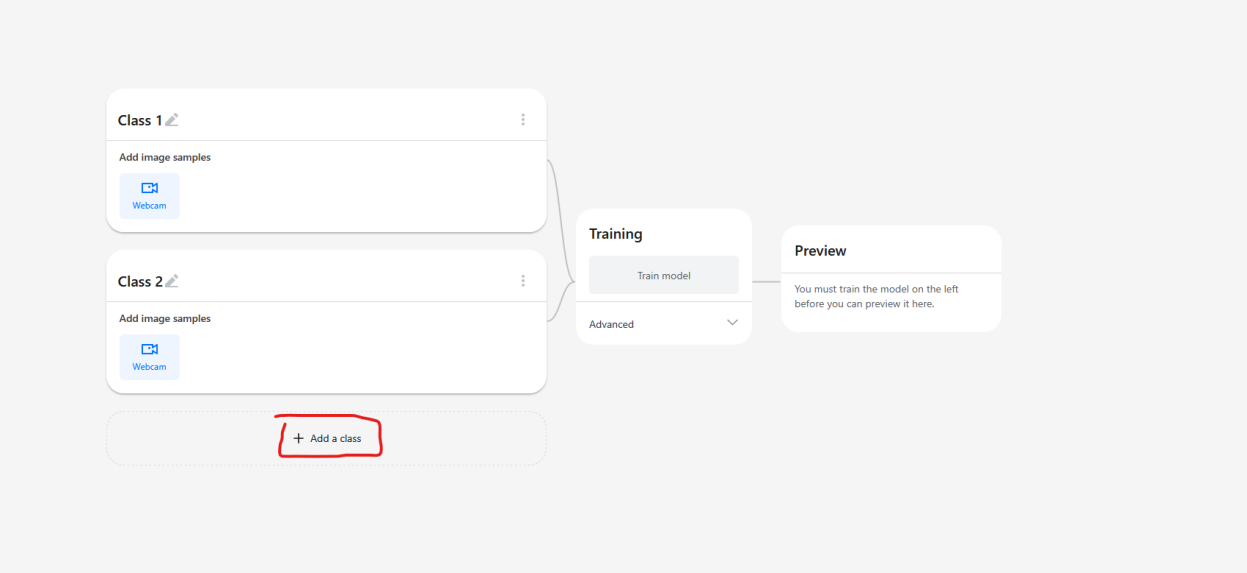
Step 4: Click on **Create/Manage model**



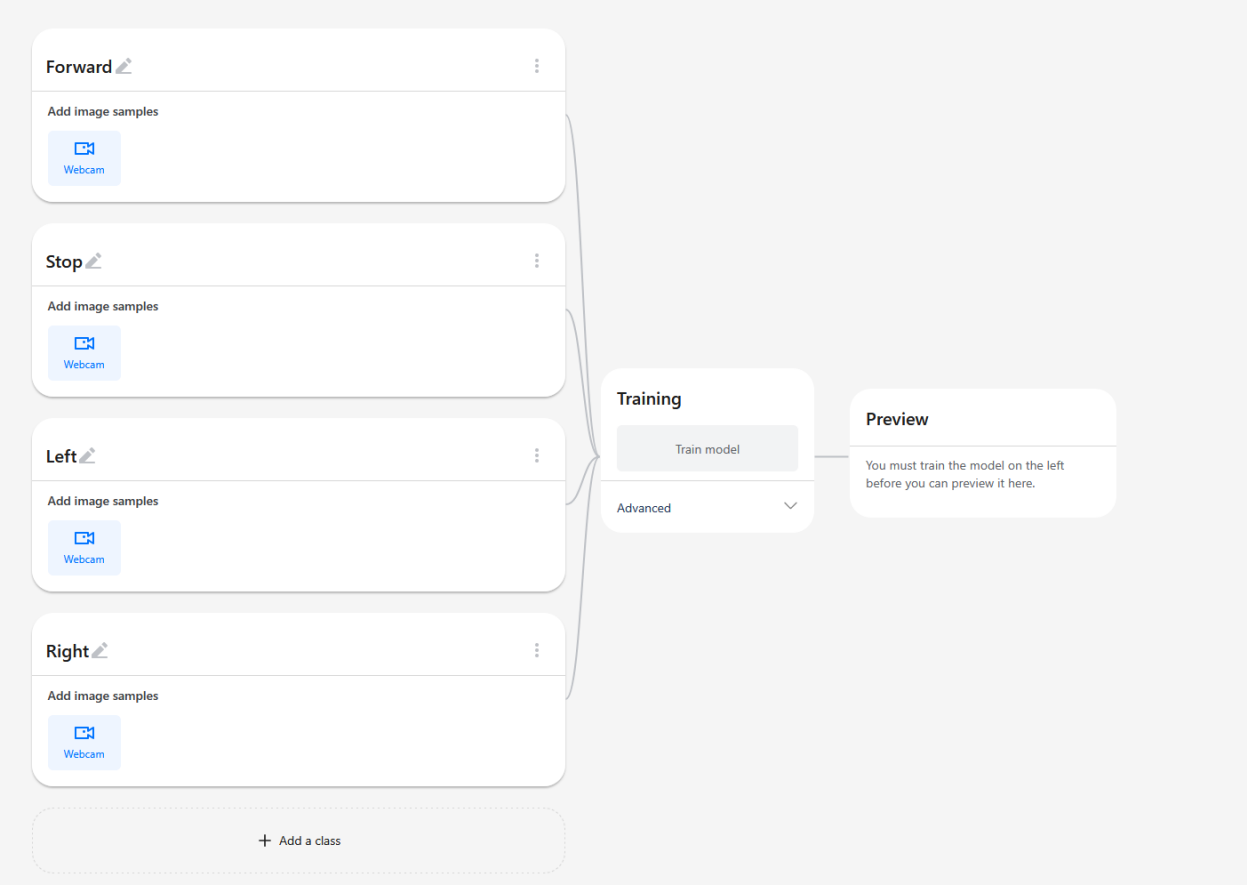
Step 5:  Click on **New Project**  under the **Image project** section. Upon clicking, it'll ask you to name it something. Once you name it, click OK.



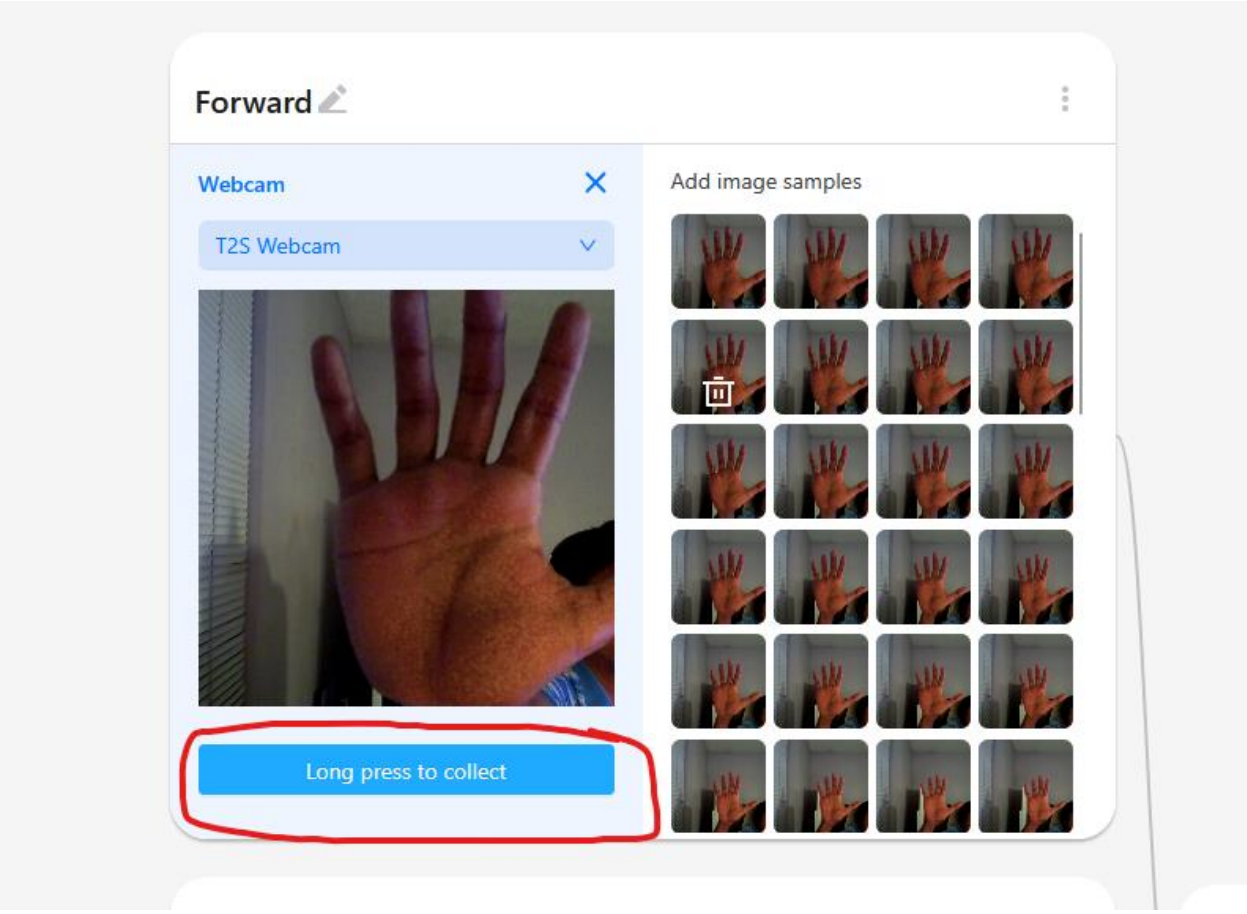
Step 6: You will be presented with 2 classes: Class 1 and Class 2. Because we want to create a gesture for each direction, add 2 more classes by clicking the add class at the bottom.

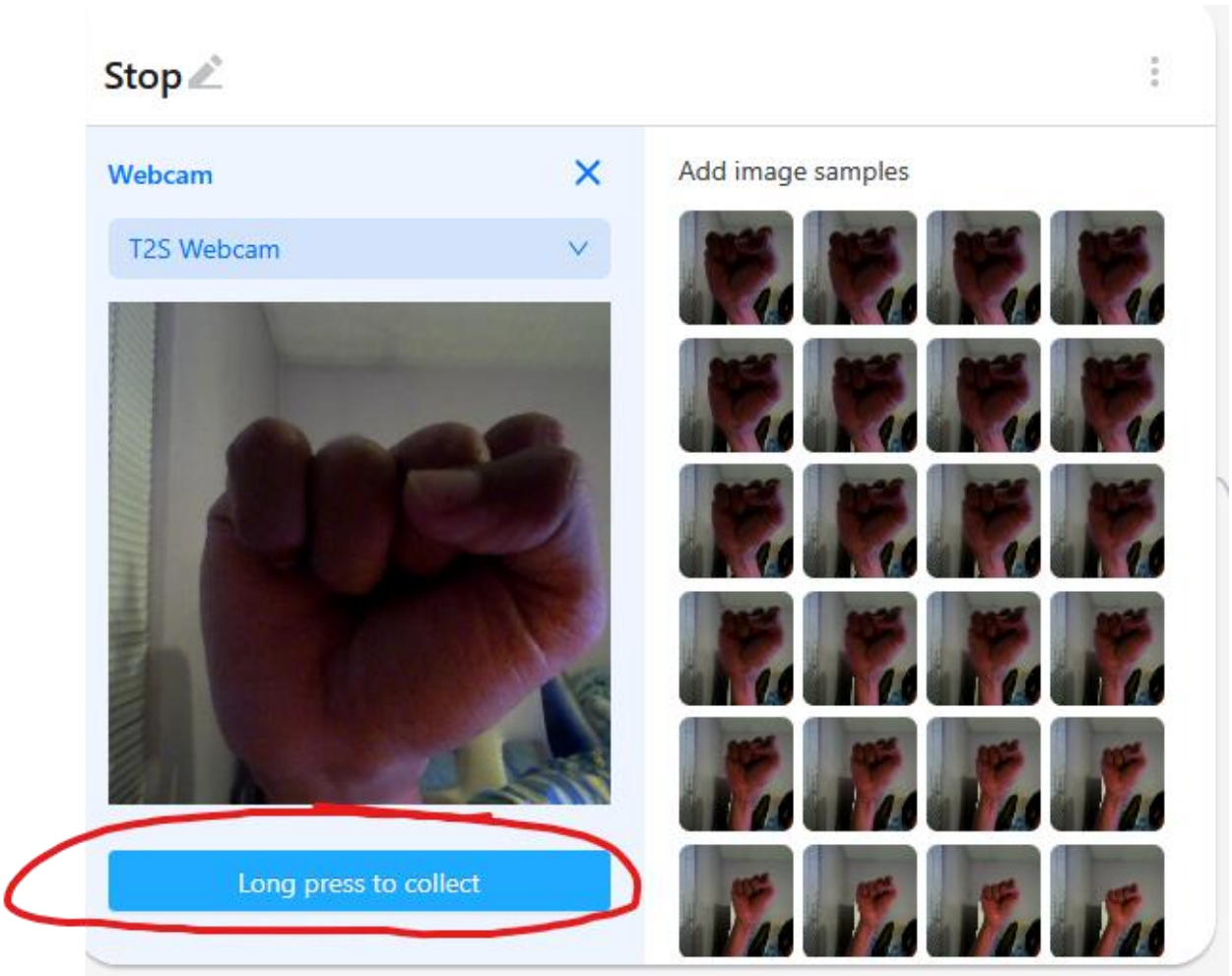


Step 7: Upon creating the class, please name them something other than Class 1 or Class 2, so you'll know what each of the classes represents.

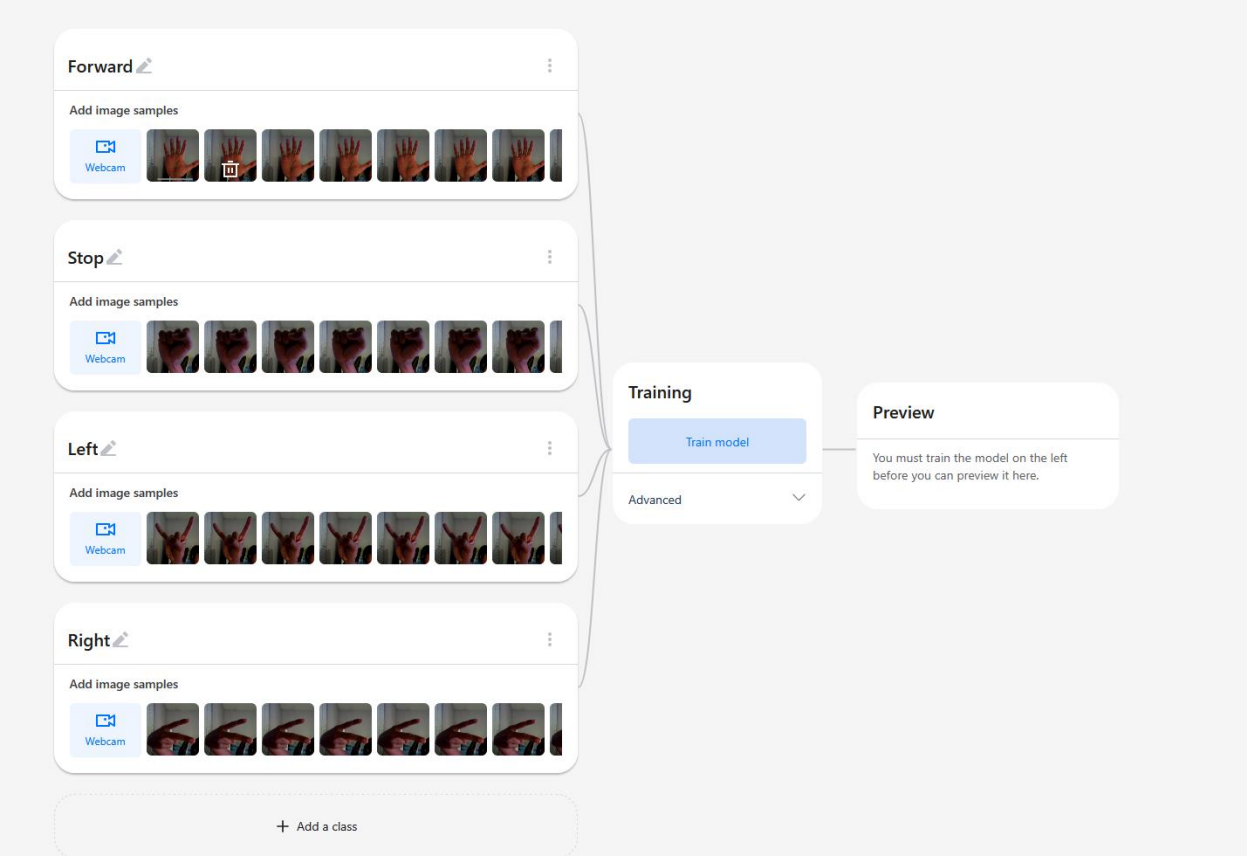


Step 8: For each class, you need to enable your webcam so you can feed them pictures that would represent each direction the robot will move. Starting with the top, press the webcam, and take pictures. Note. You can hold down the button to take multiple pictures at the same time. Please keep it within 50-60 images per class so it won't crash. You can choose any hand gesture you want but ensure that the gestures are very different for each class, so the image recognition does not get confused. Background also plays an impact so try not to change the background around you.

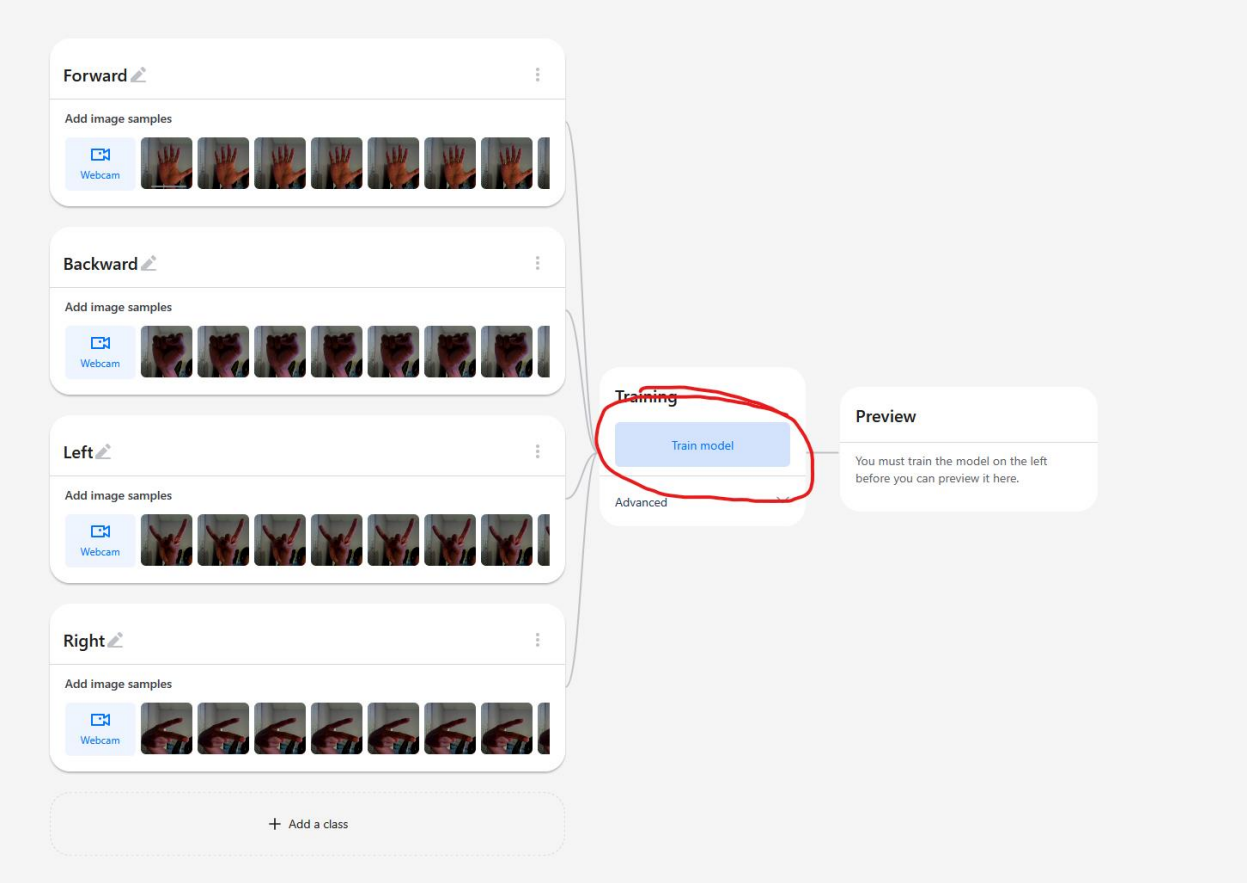



Stop
Webcam
T2S Webcam
Long press to collect
Add image samples

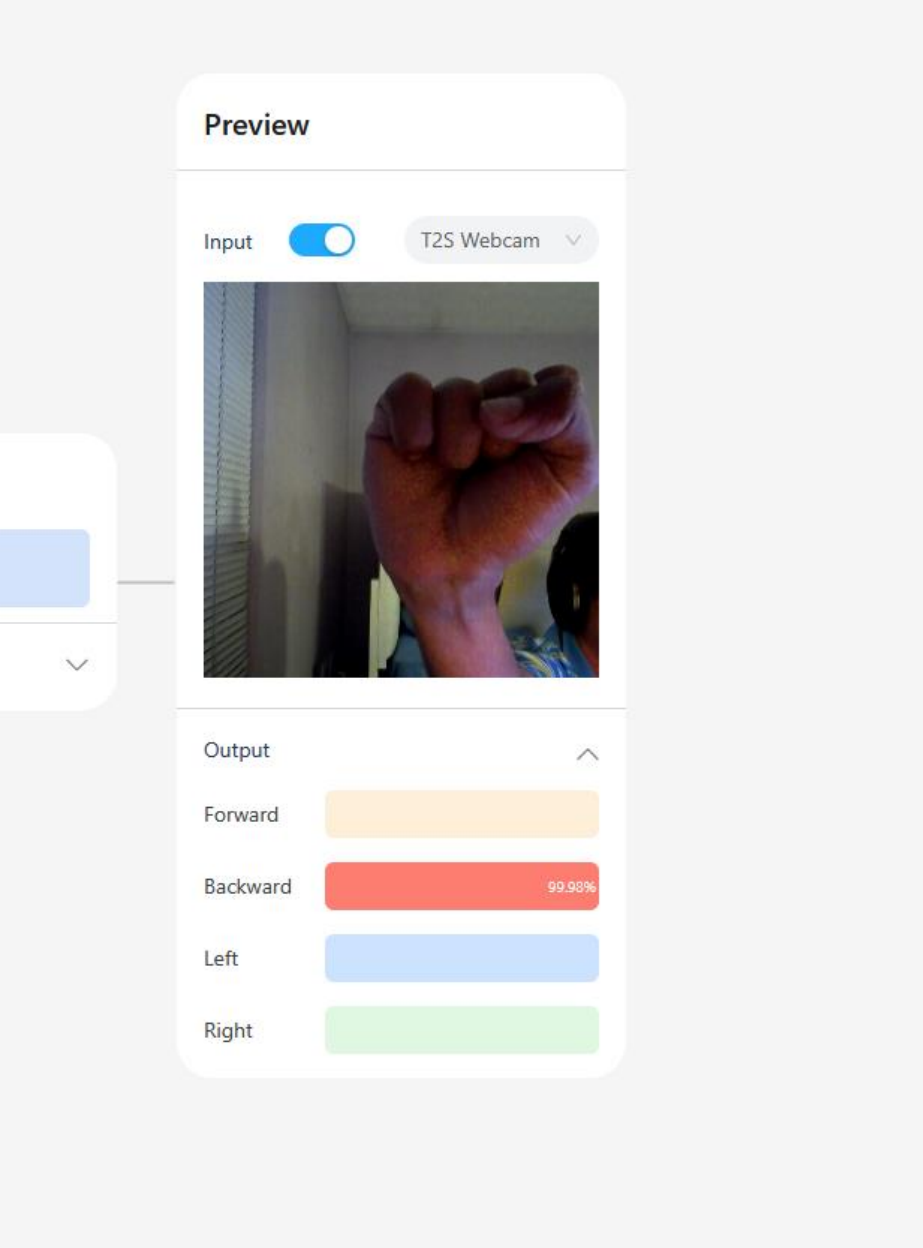
(etc.)


Forward
Add image samples
Webcam
Stop
Add image samples
Webcam
Left
Add image samples
Webcam
Right
Add image samples
Webcam
Add a class
Training
Train model
Advanced
Preview
You must train the model on the left before you can preview it here.

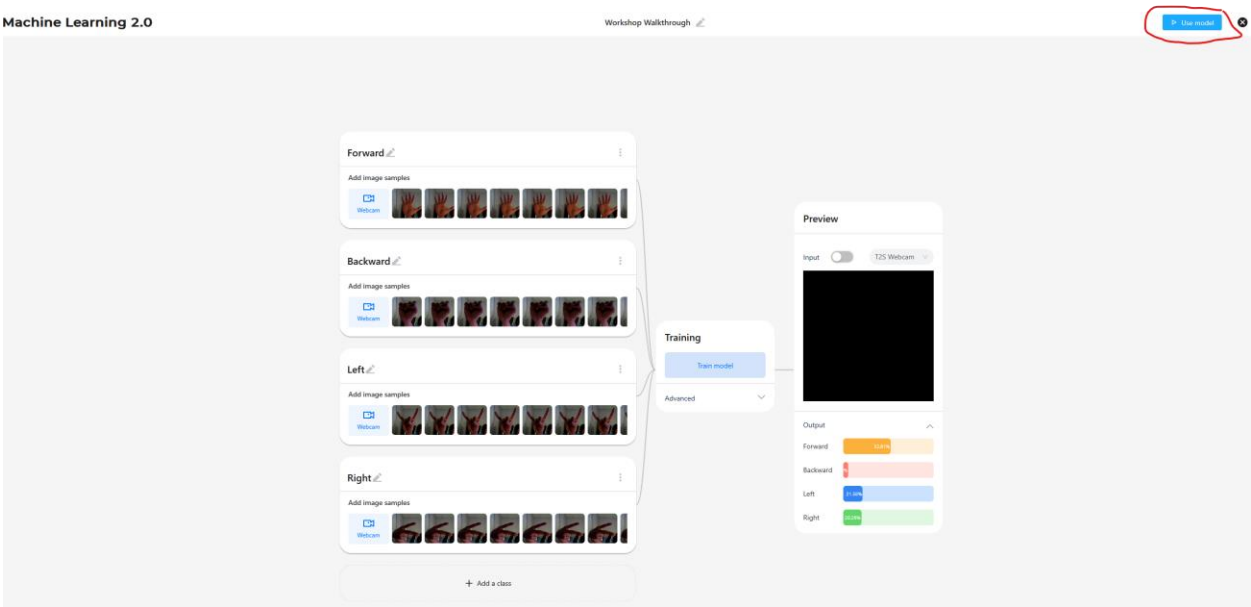
Step 9: Once you finish creating your classes and feeding your images. Click on the **Train Model** wait for your model to finish training



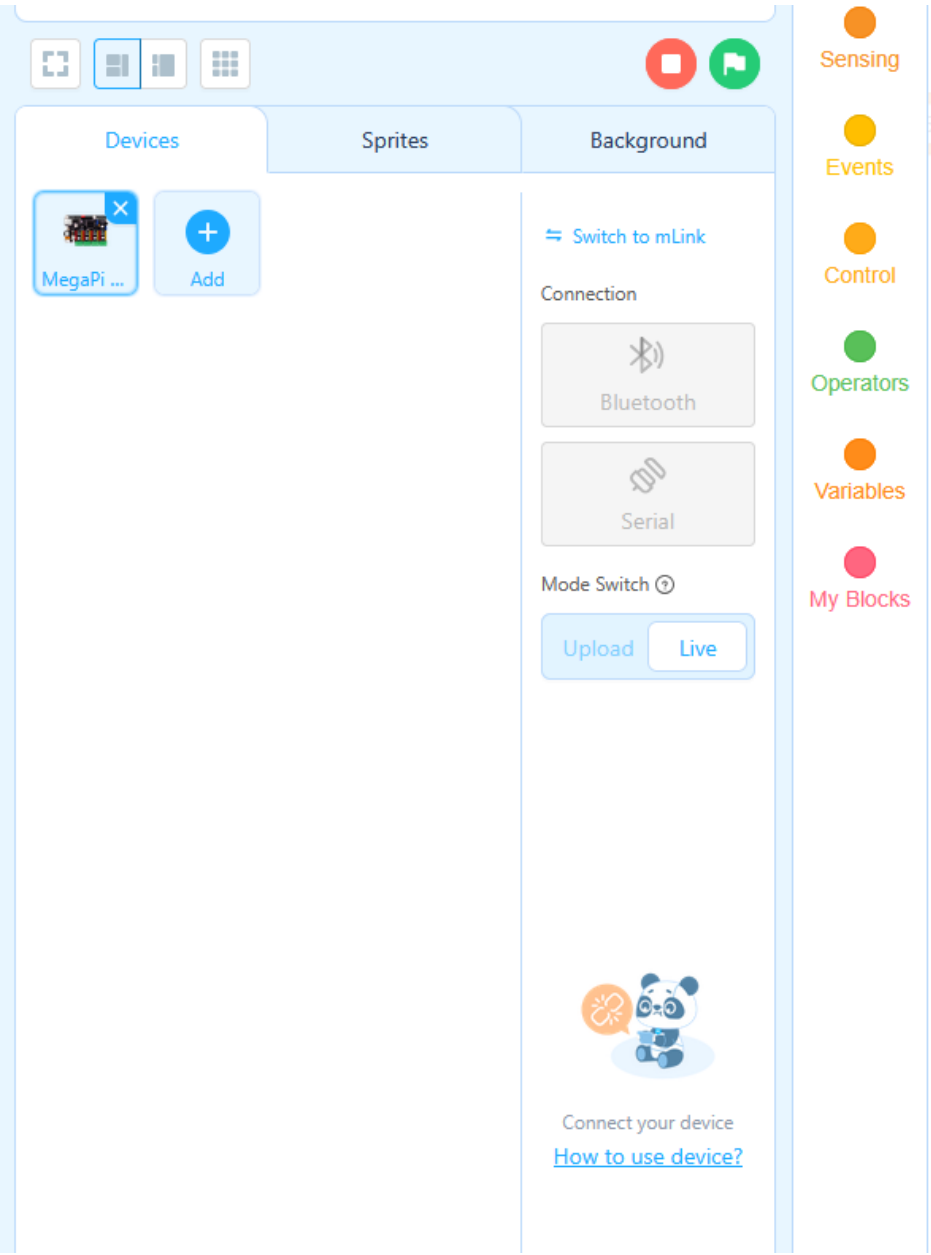
Step 10: Ensure your model can accurately tell which gesture represents which command for your mBot. Please do it for each class.



Step 11: Once you're confident, click on the **Use Model** button on the top right. That will bring you back to your mBlock code page.

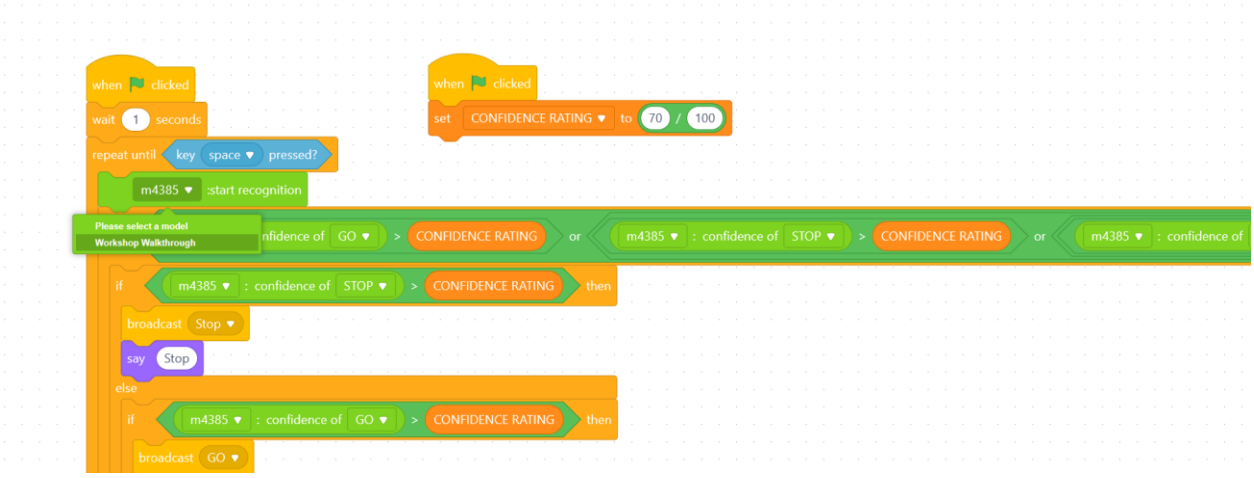


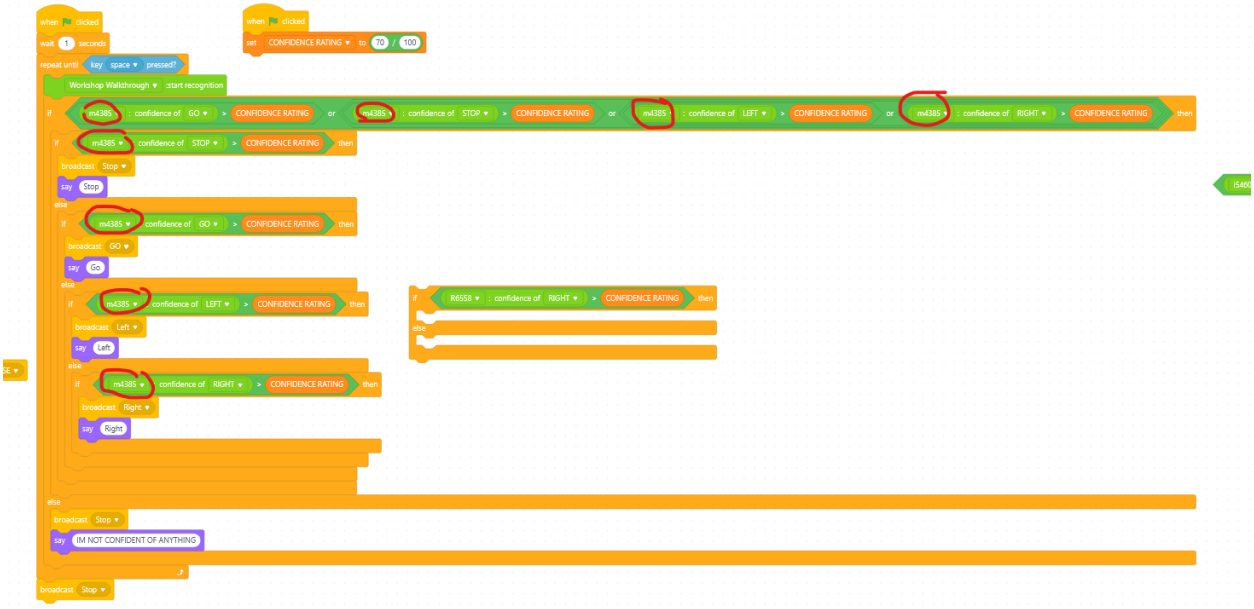

Step 12: Before we can apply the model, we need to connect the mBot to the software so it can communicate with it. Click on the devices tab and click Bluetooth.  That will bring a pop-up  showing all connectable devices. Turn the mBot on by flipping a black switch. A blue light will flash. Find the mBot on the pop-up and connect it. You'll know it's connected if the flashing blue light no longer flashes and maintains a steady blue light.



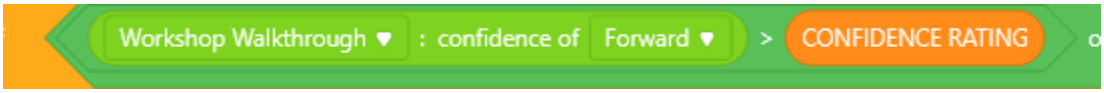

(For whatever reason mine's greyed out, but you should be able to connect to it if your machine supports Bluetooth and is running chrome).

Step 13: Once the mBot is connected, go back to the **Sprites** tab. We need to apply our model to the code. Everywhere it says “m4385” or something similar, change it to your model name.



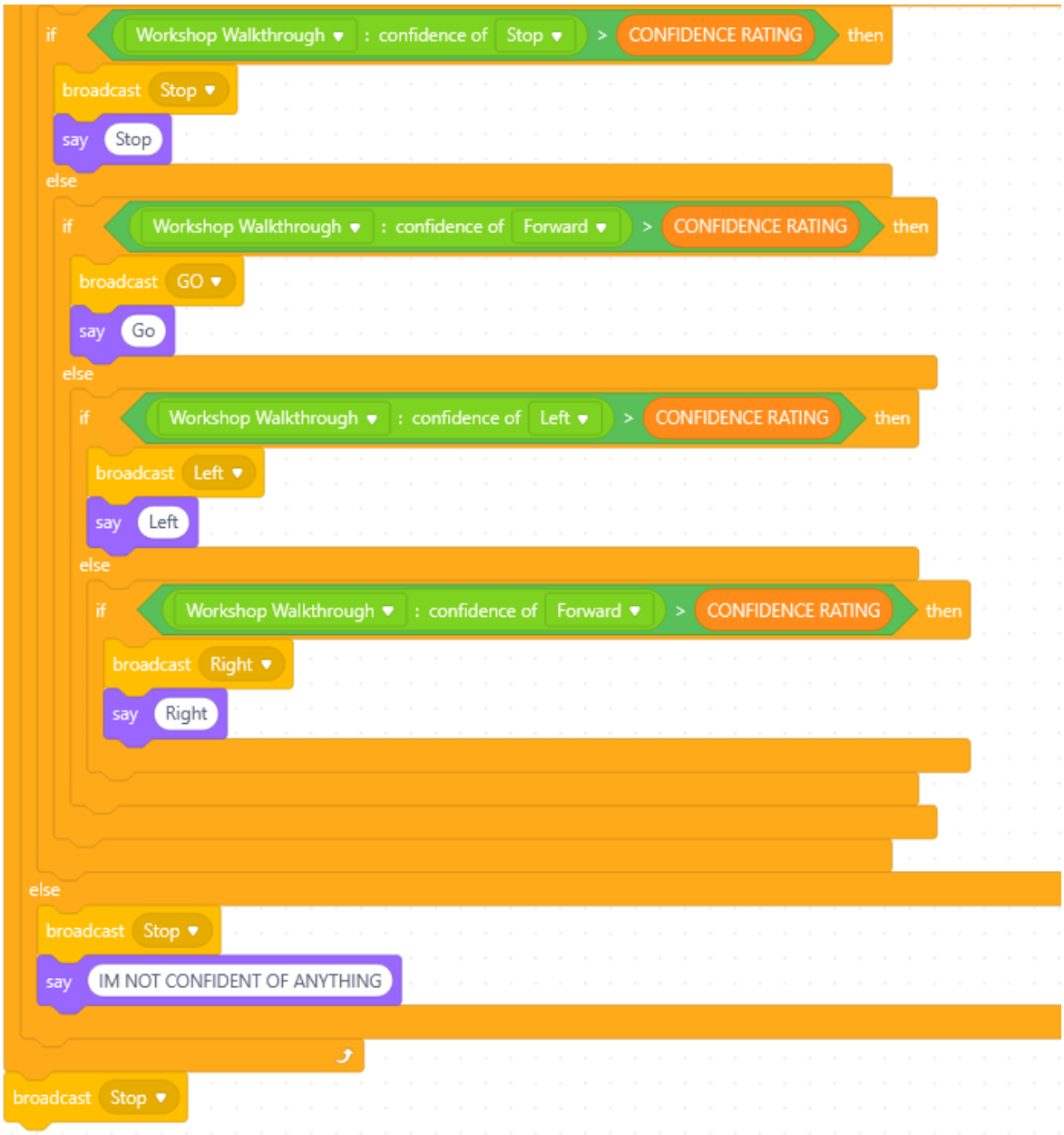



Step 14: Once you applied your model name, we need to ensure that the super long statement contains all of our commands:

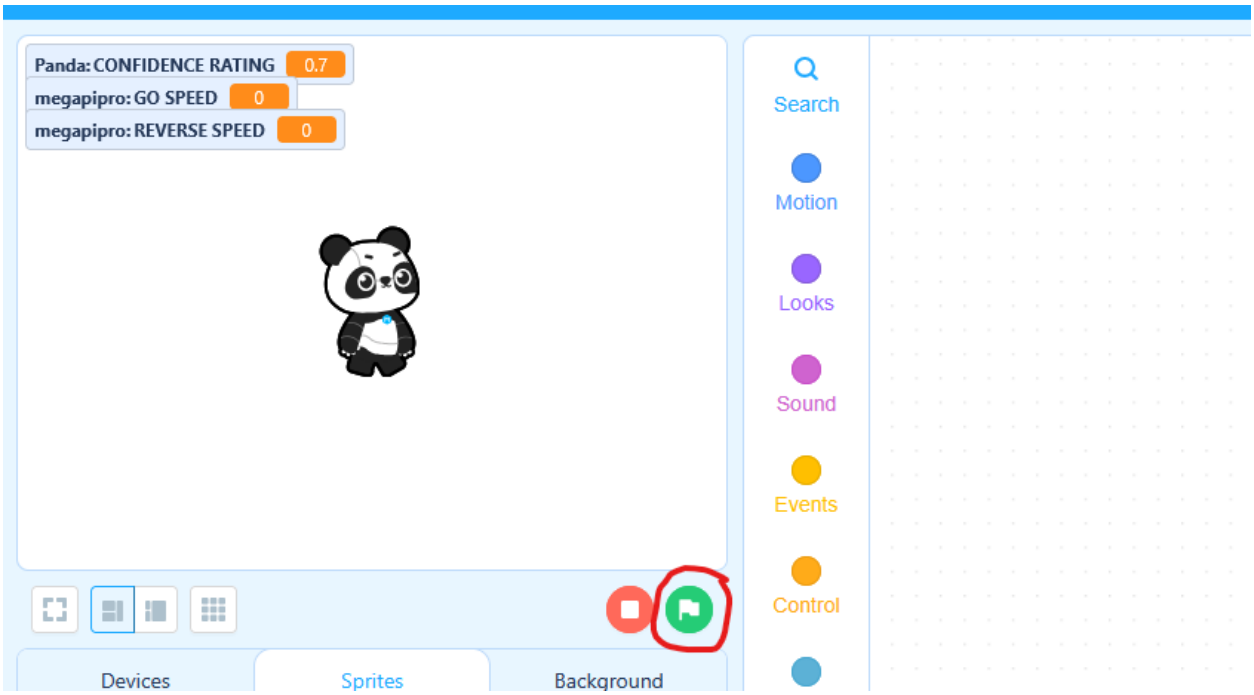



The very long if statement is right below the “:start recognition.” Make sure that it contains each of your class commands.

Step 15. Once  that's good modify the statements below so it matches with the broadcast statement.




Step 16: Finally, press the green flag where the panda is and test out your robot! Press the red square to stop the code.


Panda: CONFIDENCE RATING 0.7
megapipro: GO SPEED 0
megapipro: REVERSE SPEED 0
Search
Motion
Looks
Sound
Events
Control
Devices
Sprites
Background