Preferred Specs of PC

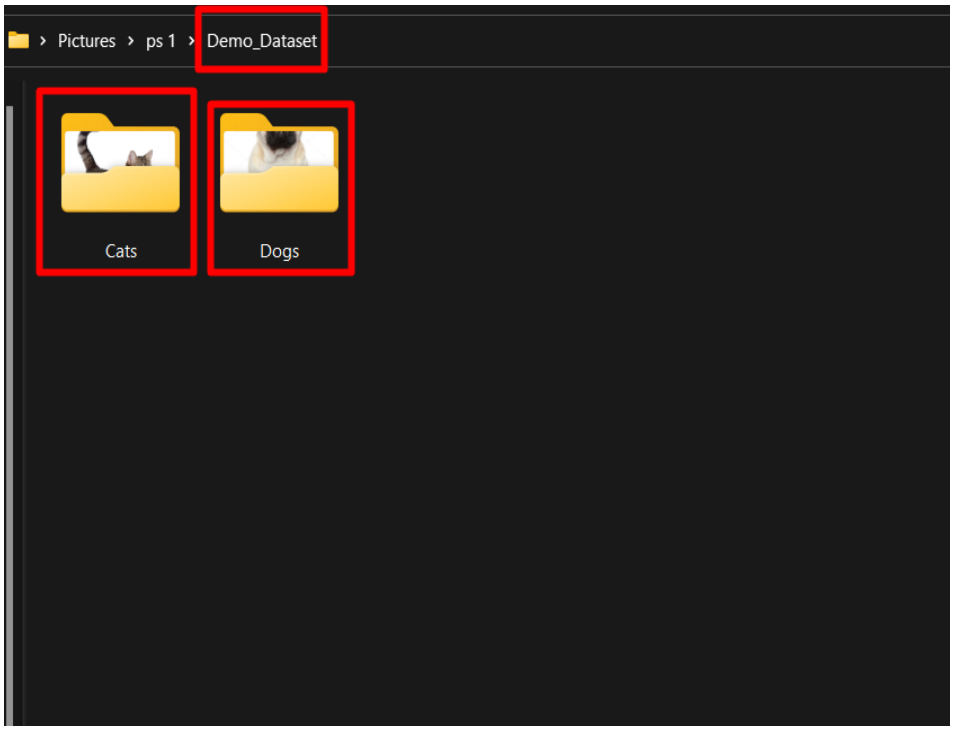
- Windows 11
- Ram 8 Gb or Higher
- A PC with decent GPU (Any GPU works just fine)

Let’s get to know the app by building a demo model. So the First thing we need to do is to prepare a dataset.

Note :
You can try it on any PC running Windows 11(as the app is not tested on Windows 10). But the above is the preferred specs.

Creating a Dataset

First, let's start by creating a Folder called Demo_Dataset. Inside the folder, we can add the folders of classes we want to classify. So in this Demo model, I am going to classify cats and dogs. Hence I am going to create two folders [Cats, Dogs] inside the Demo_Dataset. And in the cat folder, I am going to put all the cat images I have and in the dog's folder, I am going to put all the Dog Images I have.



So if you want to create a model that classifies between 5 things [Eg Bat, Ball, Pads, Helmet, Gloves] . create the folders with these respective names in your Dataset folder and put all images you have in those respective folders.

Things to keep in mind while making Datasets :

1) Make sure that the ***main Dataset folder only has folders of classes you want to classify and it has no other unnecessary folders or files.*** As the App uses the count of these folders to understand how many classes it has to classify the data into.

So in the above example, I have to make sure that there are only two folders[Cat, Dog] in my main folder(Demo_Dataset)

Having any other irrelevant file would cause the app to crash.

2)Also make sure that folders inside the main dataset are ***correctly spelt because it is used as a Label while giving out the output***. So, in my case, I have to make sure that the folders are properly named as ‘Cat’ ‘Dog’ without any typo

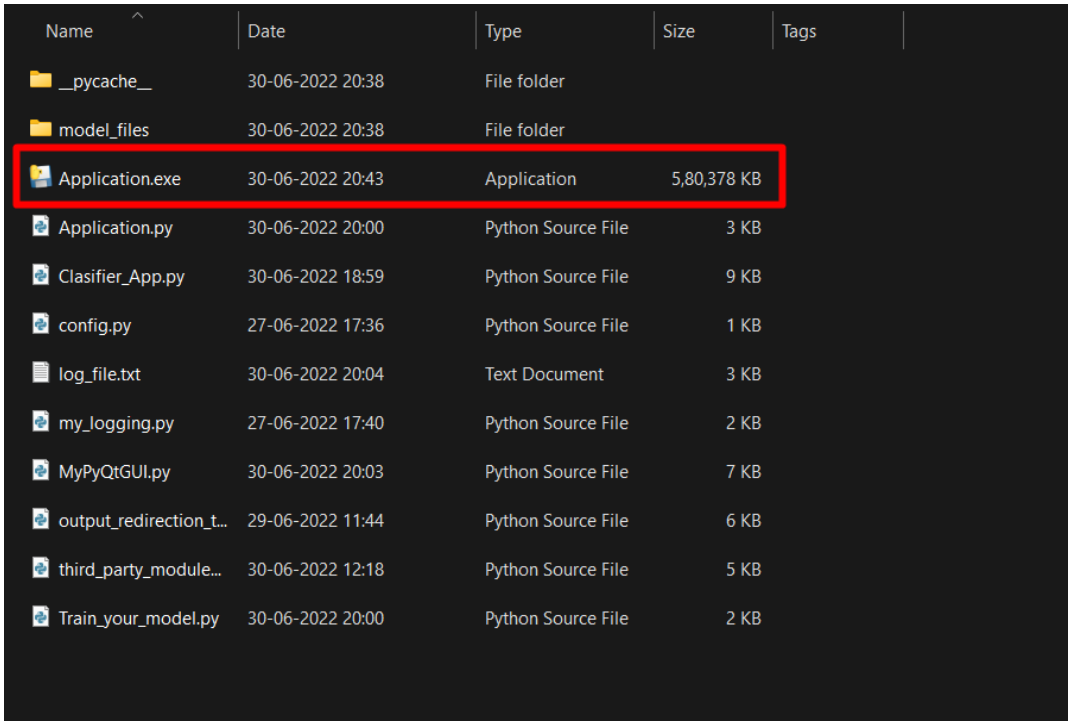
3)Make sure that ***there are only images in the inner folders***. In my case, I should verify that Cat and Dog folders only contain images. ***Any image format works (.jpg , .jpeg , .3gp , .jfif , .webp , etc)***

So now we are done with creating ***Dataset***. So let's open the App and Train.

1)Unzip the downloaded File. You will find the following Folder “AI App”. Open it and you will find the following files.

Name	Date	Type	Size	Tags
__pycache__	30-06-2022 20:38	File folder		
model_files	30-06-2022 20:38	File folder		
Application.exe	30-06-2022 20:43	Application	5,80,378 KB	
Application.py	30-06-2022 20:00	Python Source File	3 KB	
Clasifier_App.py	30-06-2022 18:59	Python Source File	9 KB	
config.py	27-06-2022 17:36	Python Source File	1 KB	
log_file.txt	30-06-2022 20:04	Text Document	3 KB	
my_logging.py	27-06-2022 17:40	Python Source File	2 KB	
MyPyQtGUI.py	30-06-2022 20:03	Python Source File	7 KB	
output_redirection_t...	29-06-2022 11:44	Python Source File	6 KB	
third_party_module...	30-06-2022 12:18	Python Source File	5 KB	
Train_your_model.py	30-06-2022 20:00	Python Source File	2 KB	

2) Now Run the ***Application.exe*** file



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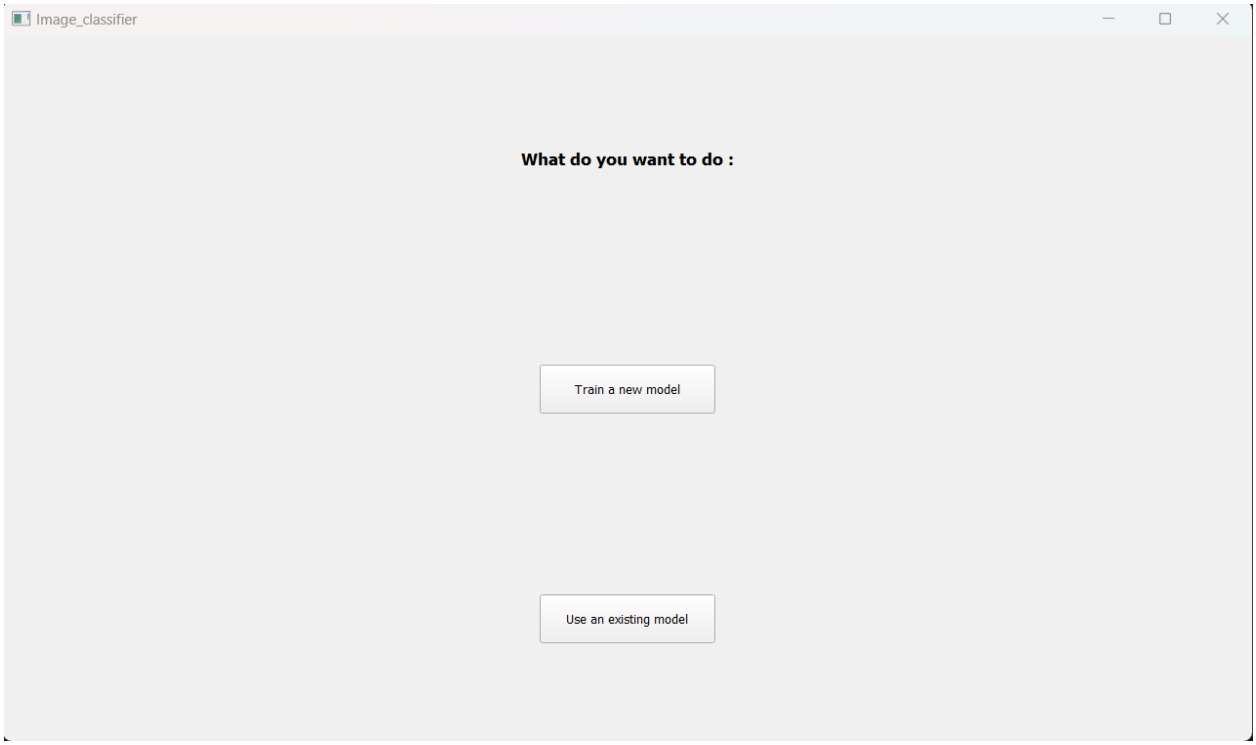
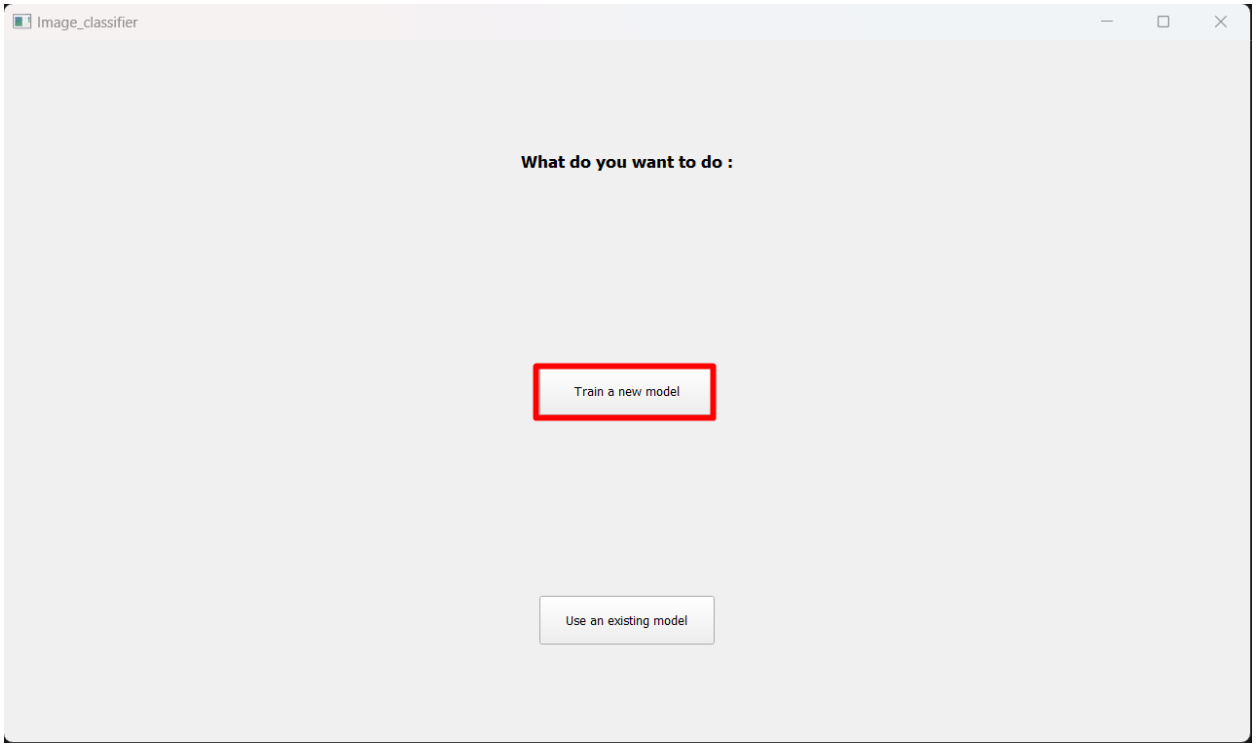
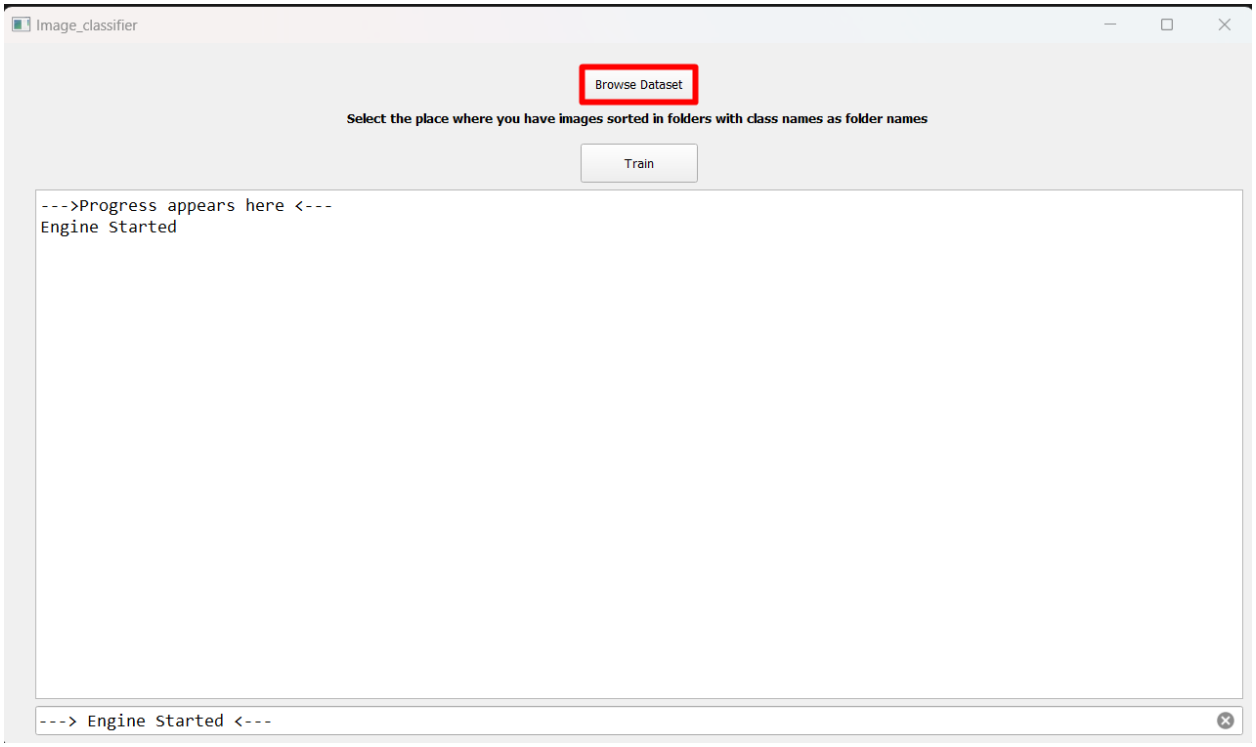
3)You will find a similar interface.



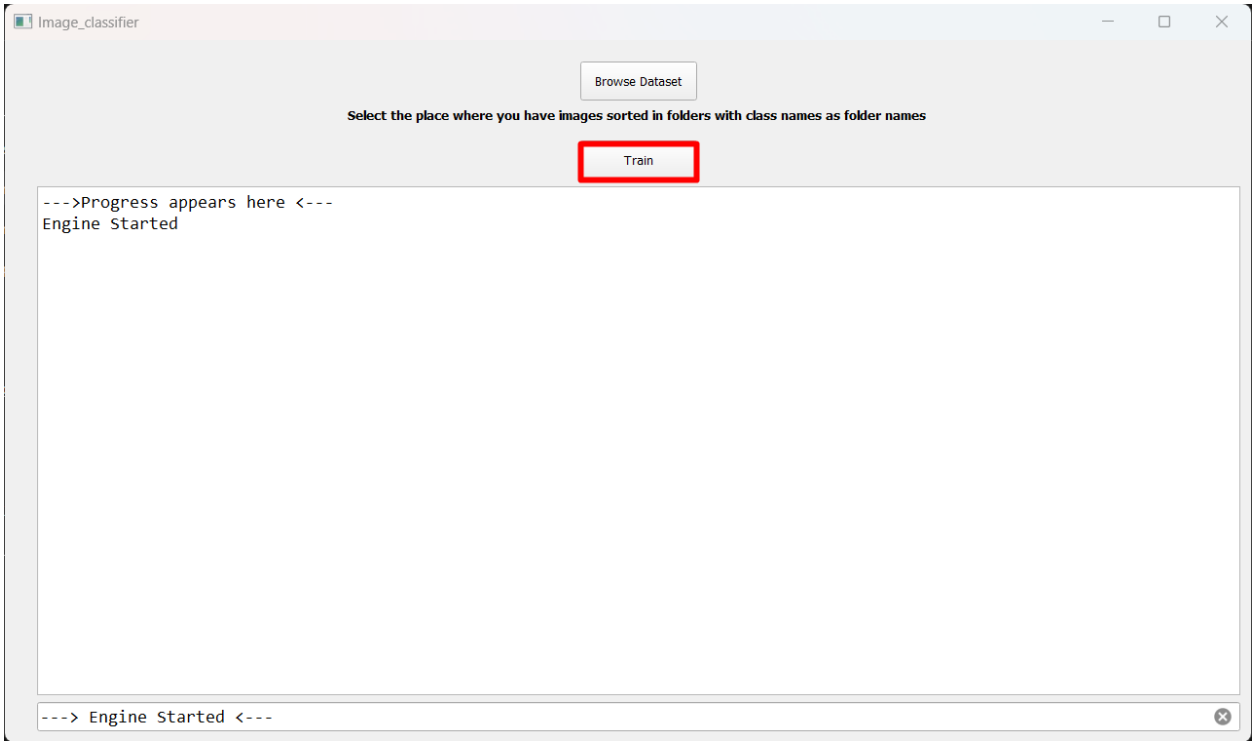
4) Click *Train Model* to start Training



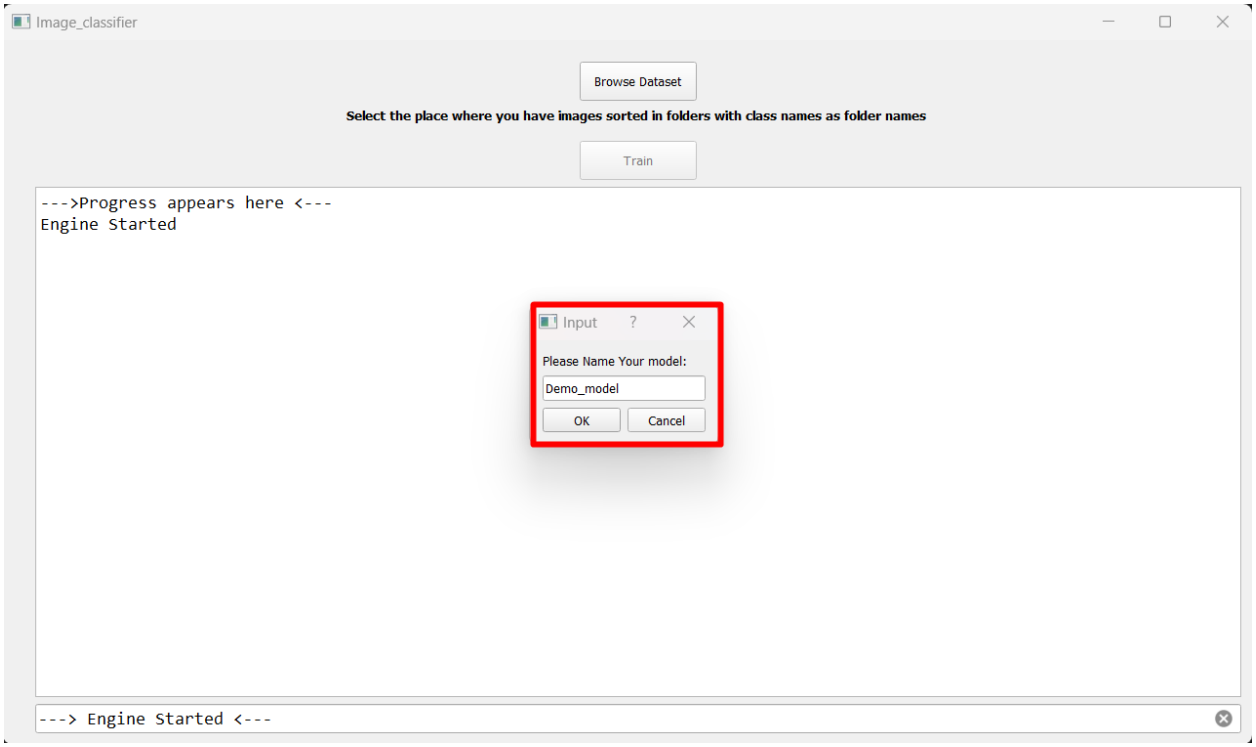
5)Now click *Browse Dataset* and choose the dataset you have created before. I will choose "*Demo_Dataset*"



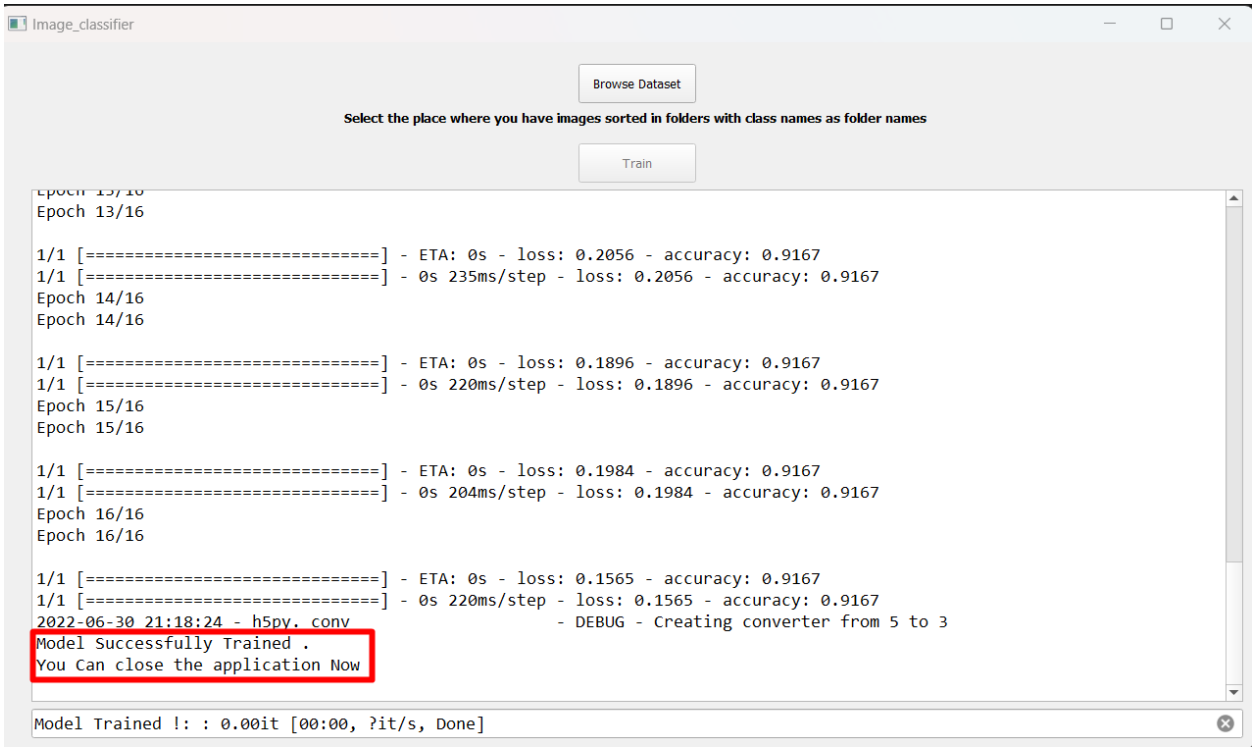
6)Now click *Train* once you have selected the folder.



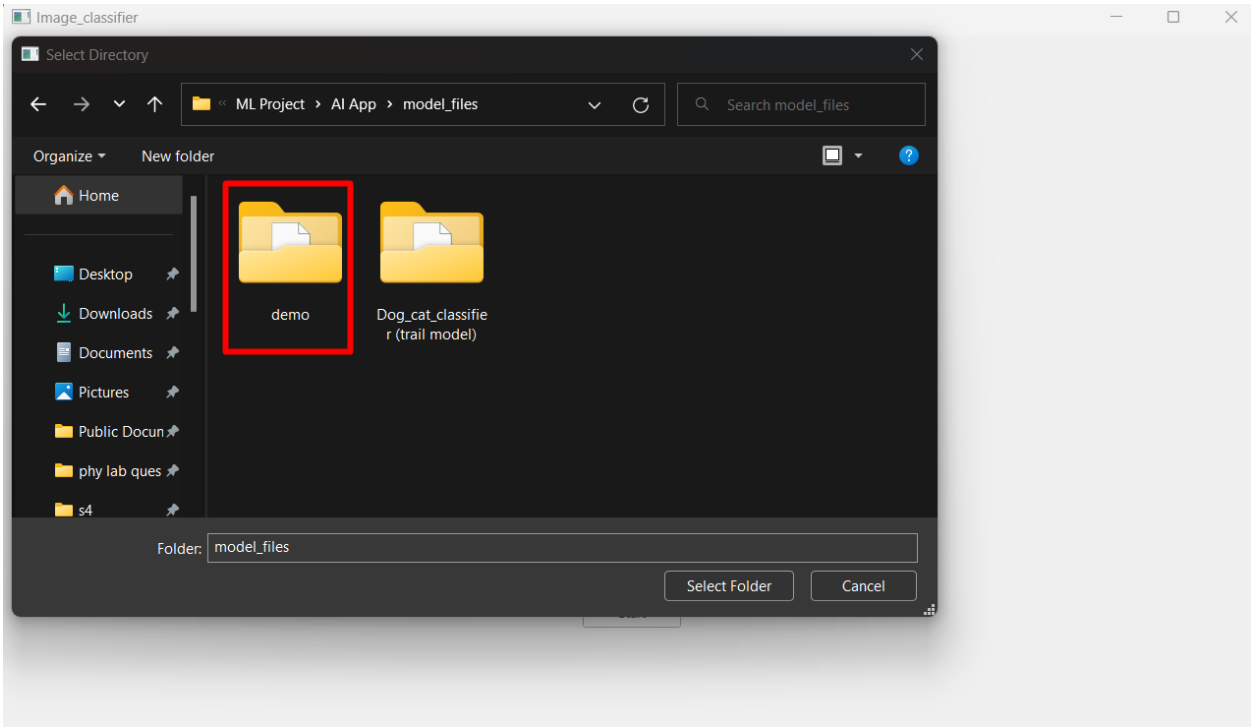
7)Now a popup window will appear asking to name the model. Enter the name you like.



8)Once you enter the name and click *ok*, then training starts.



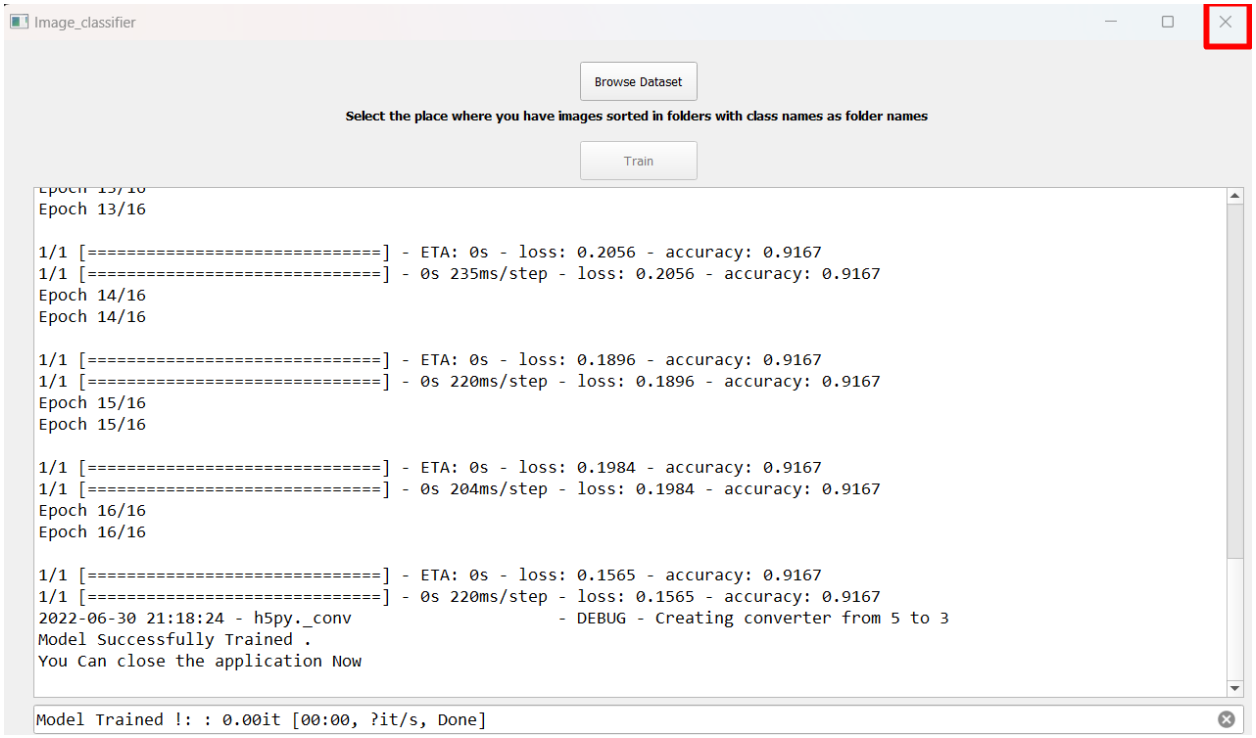
Note: The training may take a while depending on the size of the dataset.
Once the training is complete you will see a folder with the name you have entered before, in the folder "*model_files*" present along with the Application.exe in the folder "*AI APP*"



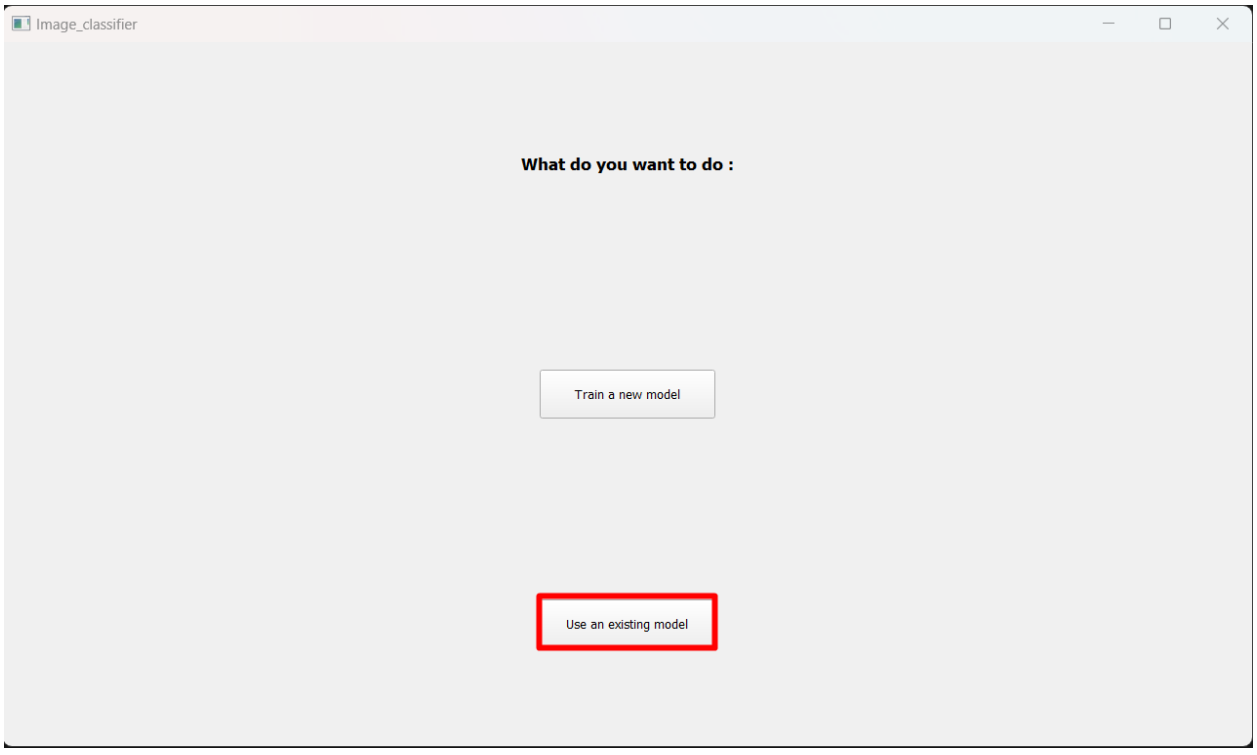
If you can see the folder with your model name, then the training is successful and we are ready to make predictions based on the data we have given to the model.

Now let's test the model we have created

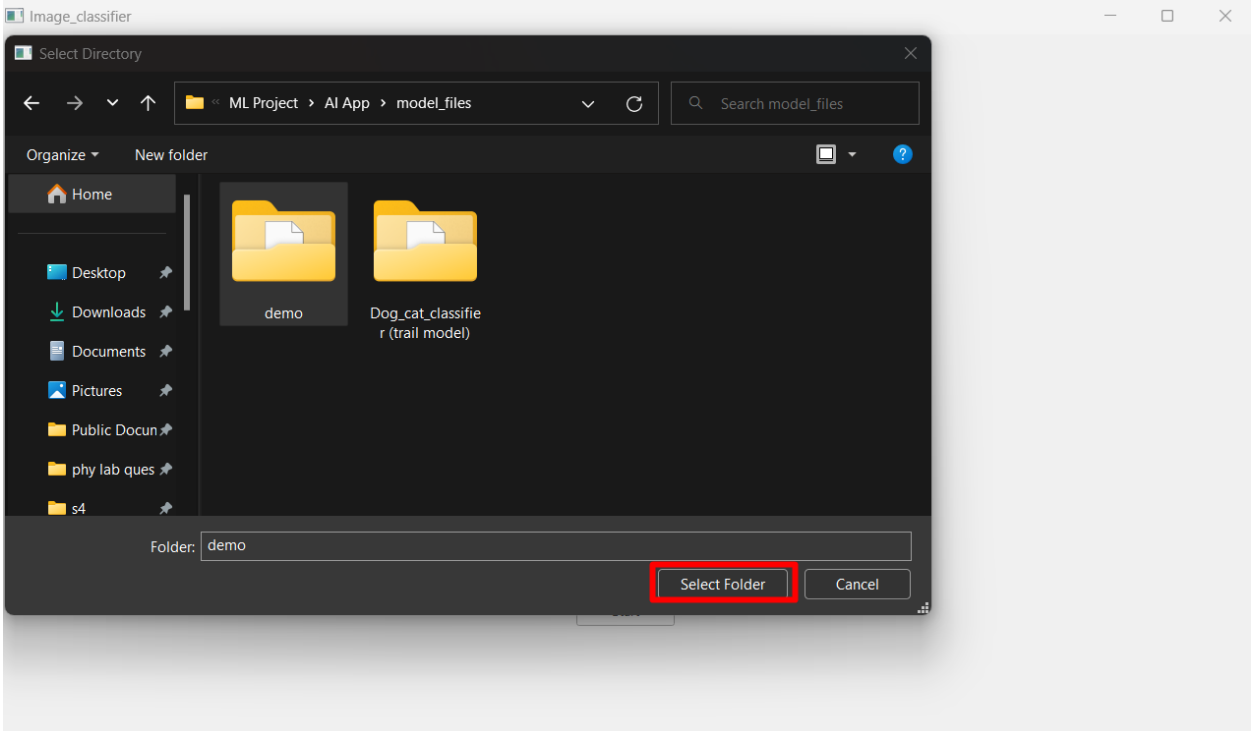
1)First let's restart the application



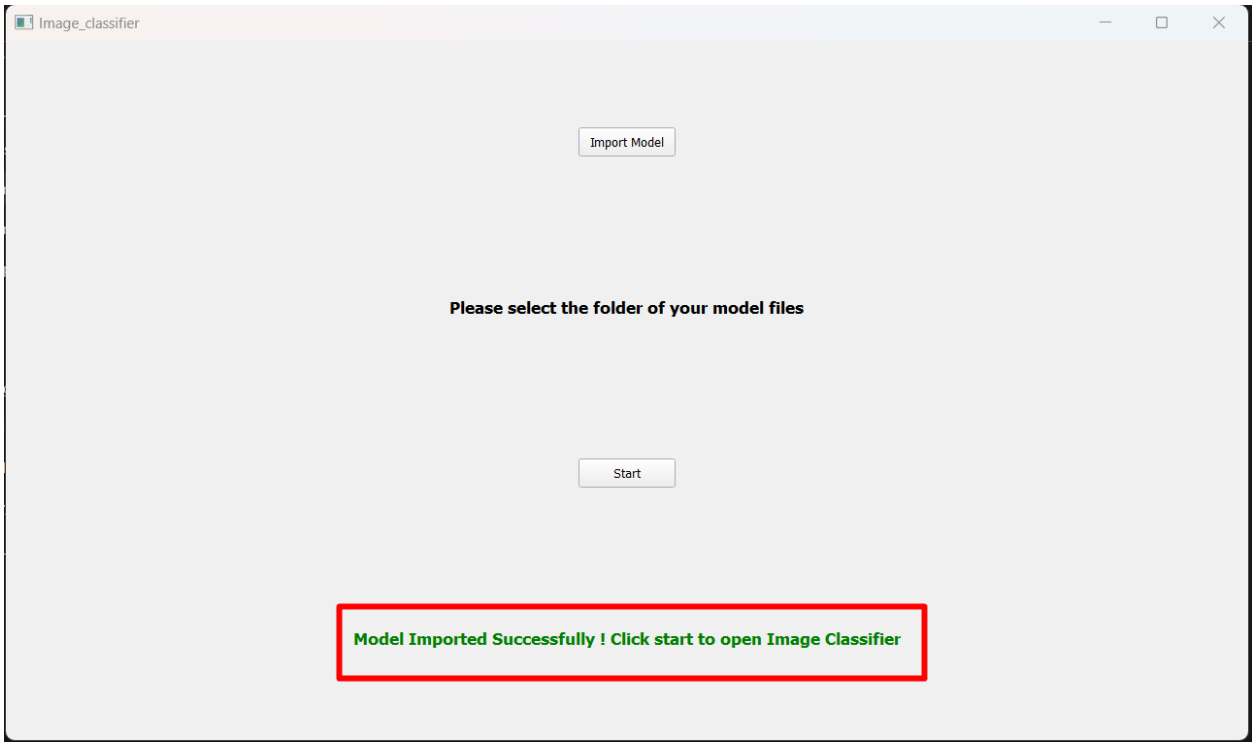
2)Let's restart the application by running Application.exe again and then select the "*use an existing model*" option



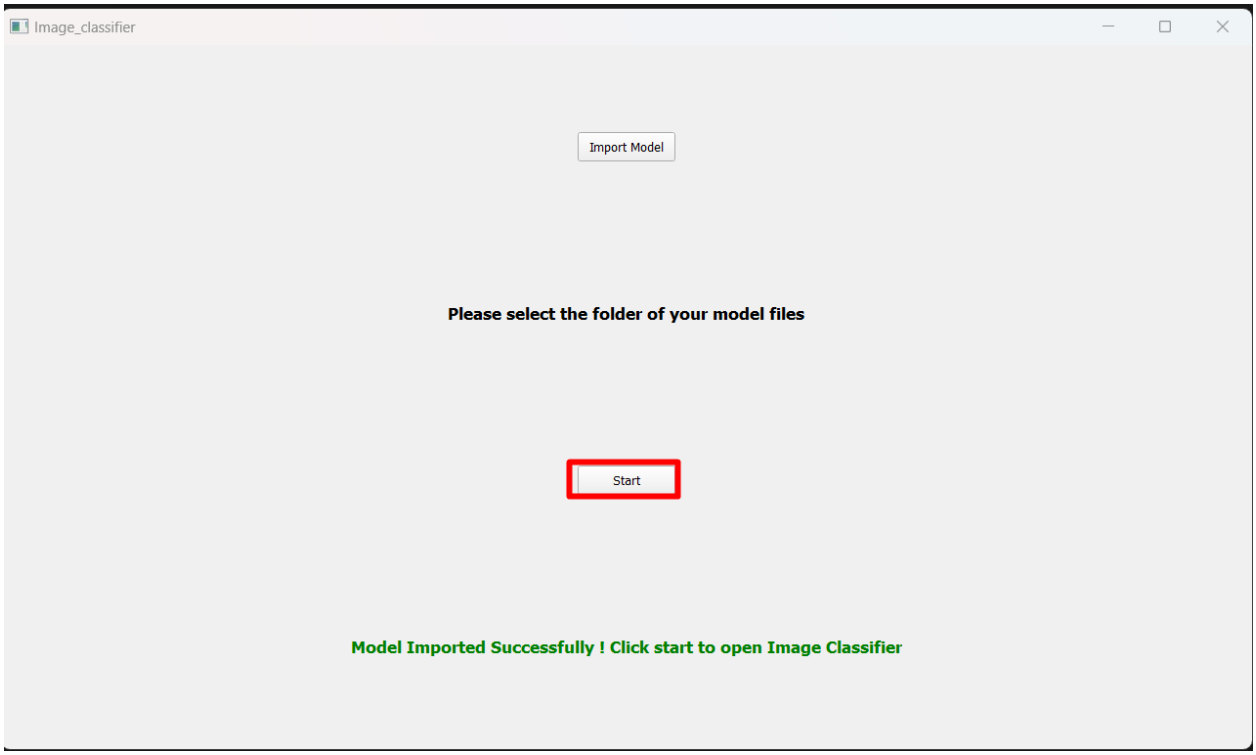
3)Now let's select the model by clicking browse and choosing the model folder we have received from training before



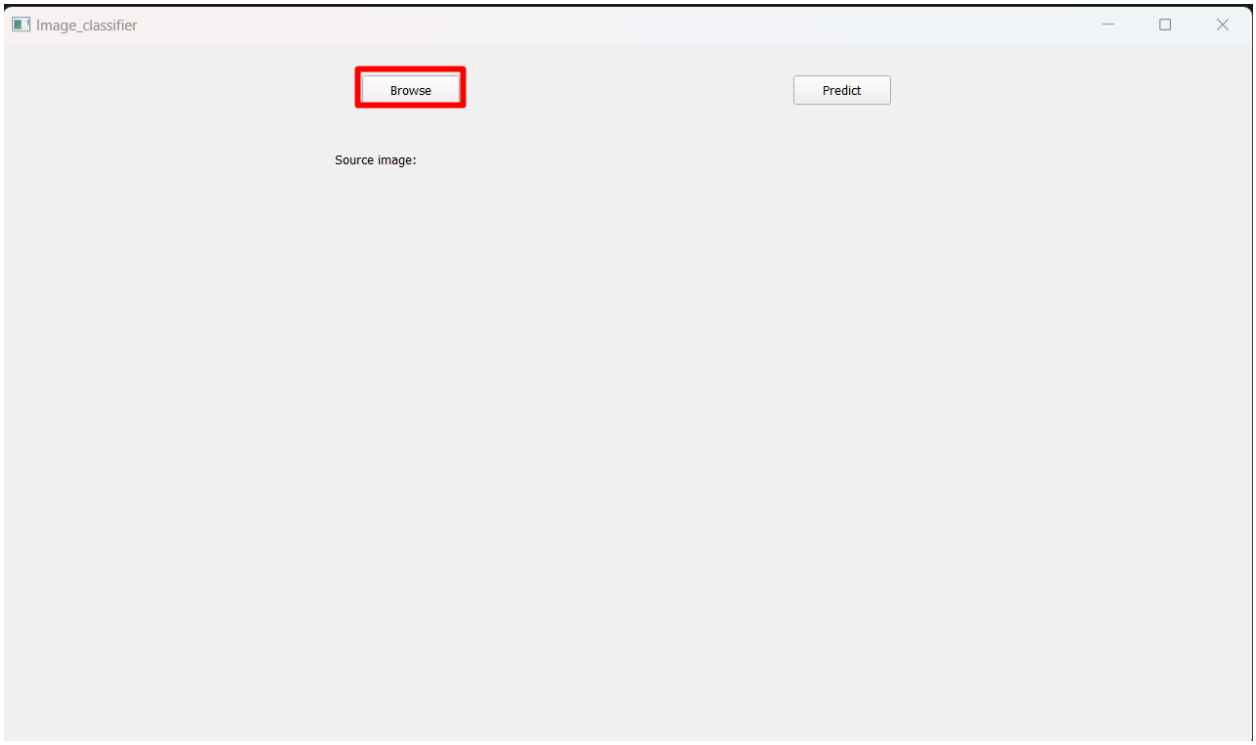
4)Now If you see "*Model Imported Successfully*" in green colour, then we are ready to go.



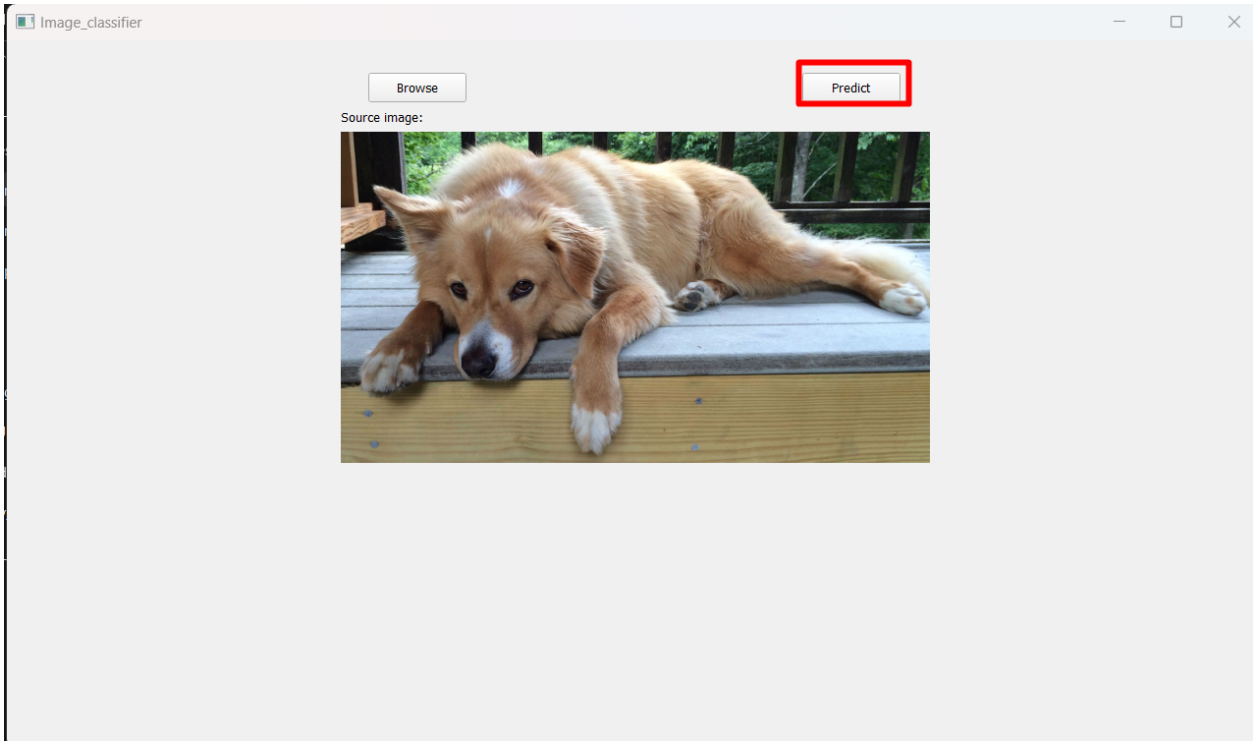
5)Now click "*Start*"



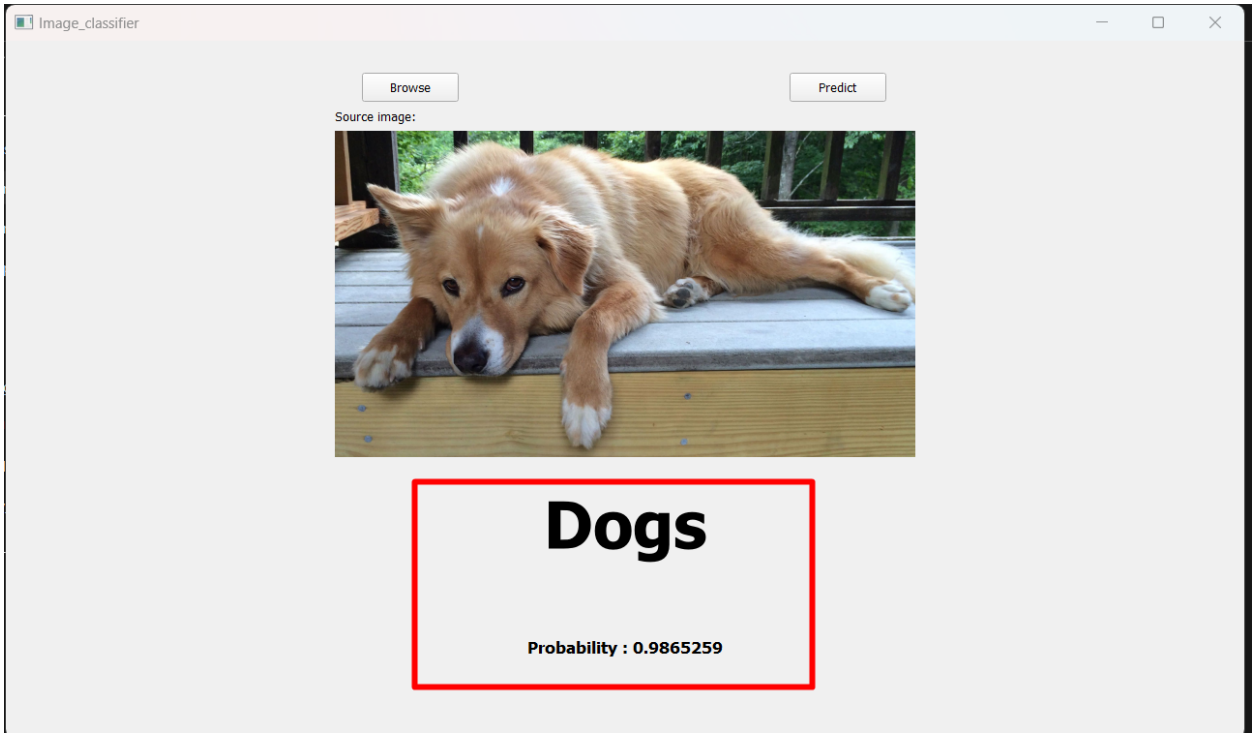
6)Now Browse the image you want to predict



7)Now click "*Predict*"



8)Now you should see the prediction of your model



You can use this app the create model for any number of classes, I used only two because it's easy to show.

Also, it's a vaguely generalised way of training a model. Machine learning algorithms are not trained in this way. We have chosen this way so that the data can be kept confidential. So I am not sure how much accuracy this model would give.

If you still have any questions, you can contact me.

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