



Face Recognition iOS App

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Face Recognition iOS App

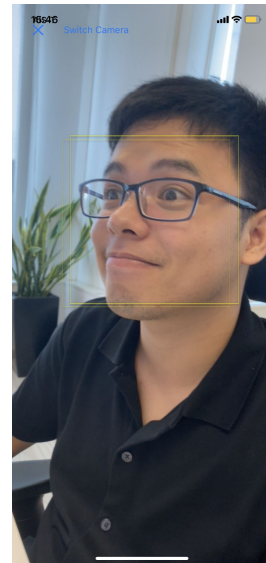
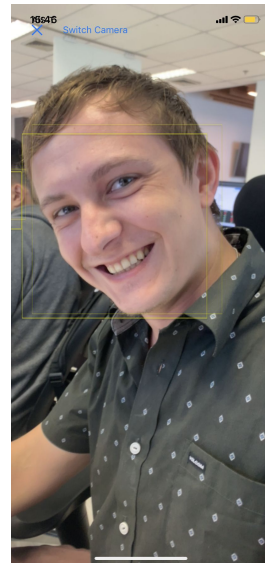
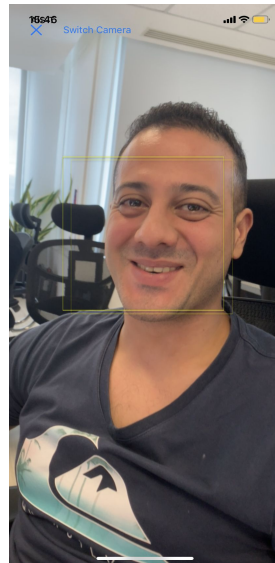
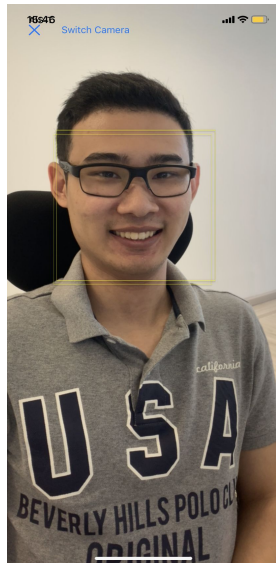
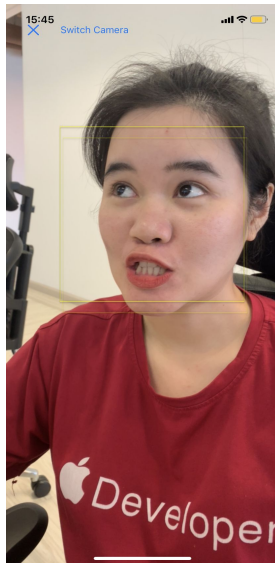
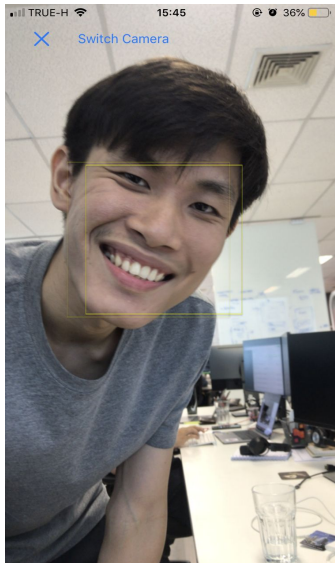
Detect face of a person and show their name

- Using Create ML.
- Implement Vision and CoreML into iOS app.

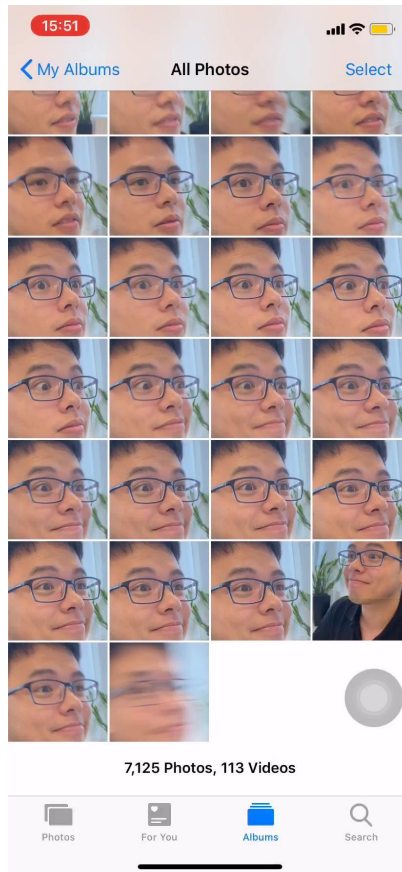
How we implemented

Collect data

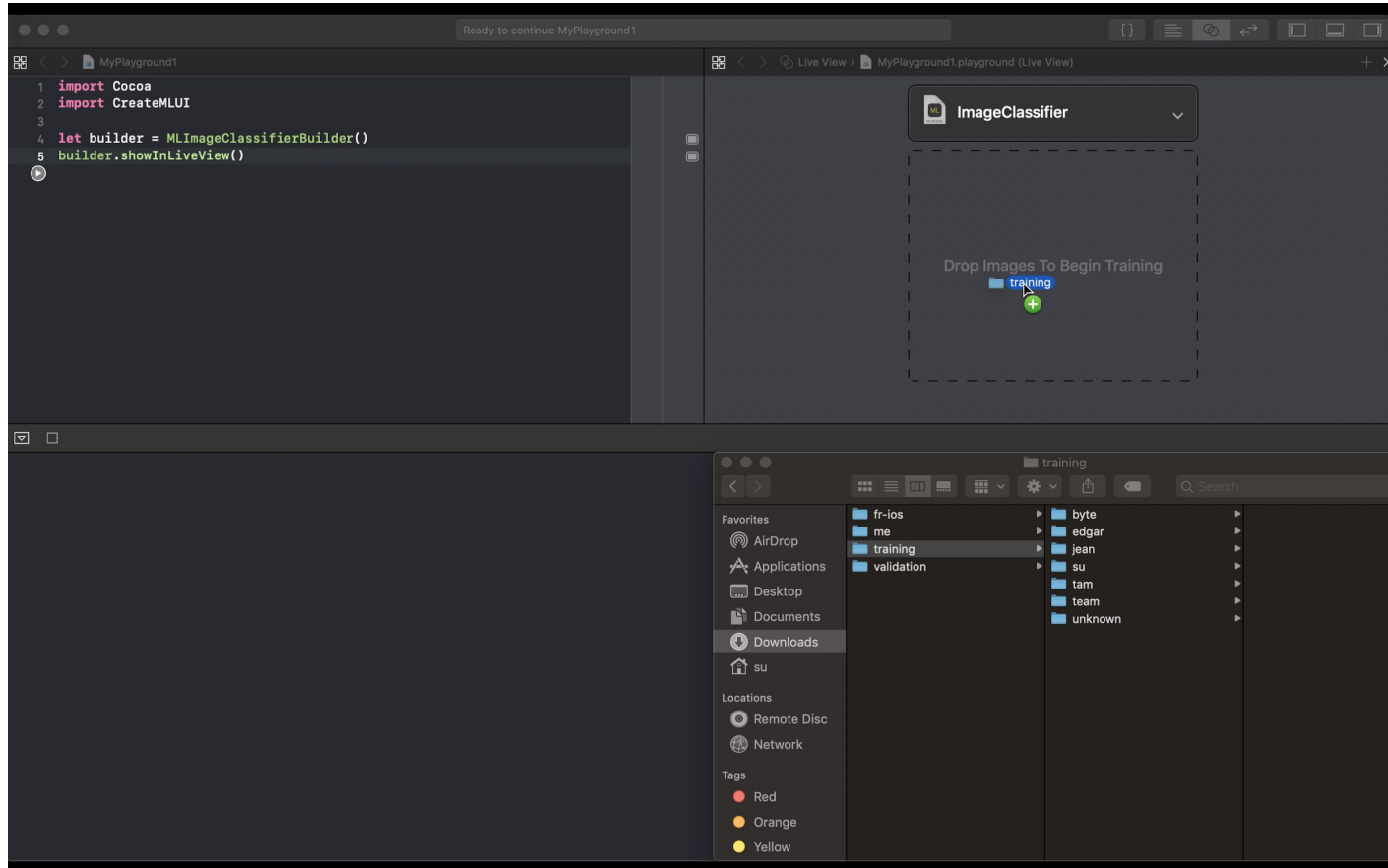
Use Vision framework for detect face then save the face photo to an album.



Collect data



Create machine learning model using Create ML



Create machine learning model using Create ML

The screenshot displays the Xcode IDE interface for a project named "MyPlayground1". The Swift file on the left contains the following code:

```
1 import Cocoa
2 import CreateMLUI
3
4 let builder = MLImageClassifierBuilder()
5 builder.showInLiveView()
```

The Live View on the right shows the "ImageClassifier" interface. It displays model accuracy metrics: Training (92%), Validation (92%), and Evaluation (80%). Below the metrics is a live video feed of a person's face. The "Predicted" label is "team" and the "True" label is also "team".

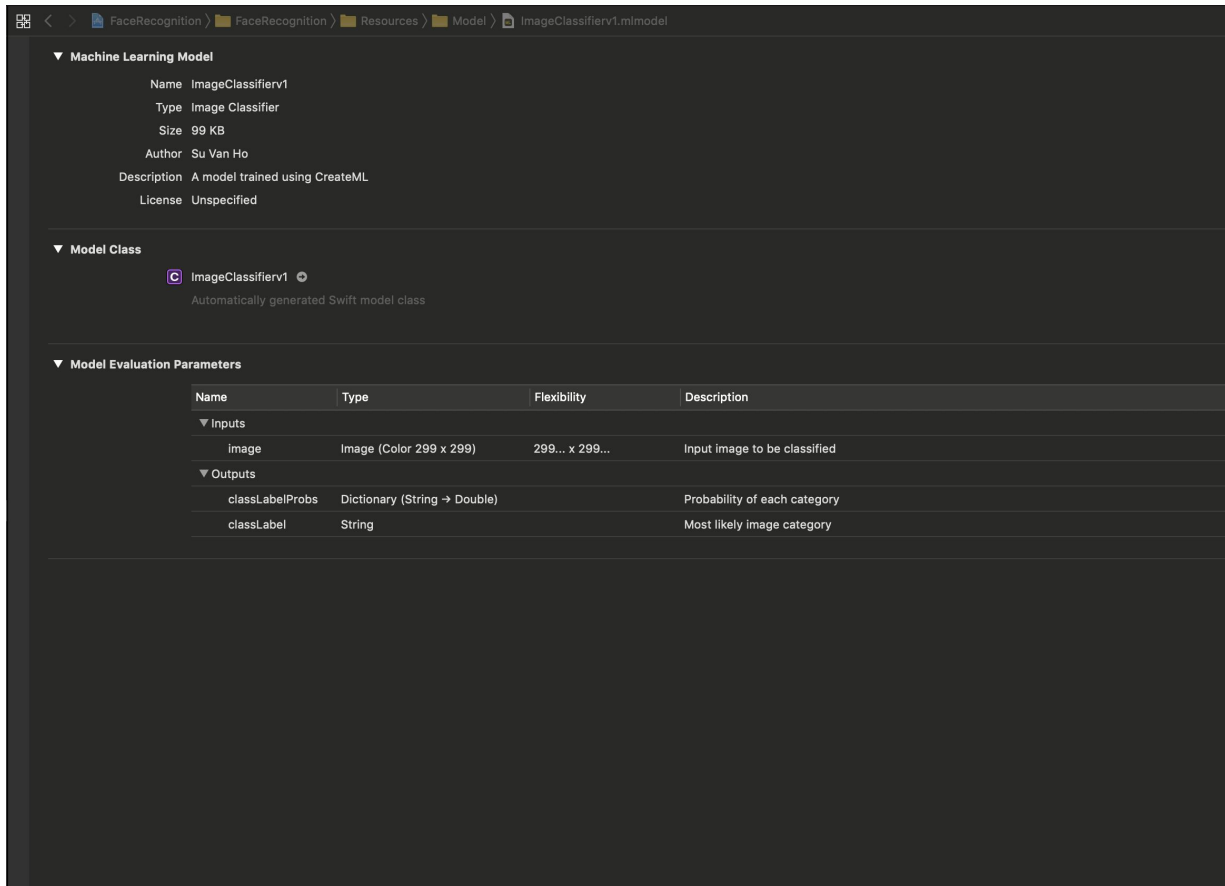
The terminal window at the bottom shows the following output:

```
Number of examples: 409
Number of classes: 7
Accuracy: 80.20%

*****CONFUSION MATRIX*****
True\Pred byte   edgar   jean    su      tam     team    unknown
byte   50      0       0      15      7       0       0
edgar  0      58      2       0       0       0       0
jean   6       0      39      1       0       0       0
su     18      3      10     35      3       0       3
tam    0       0       0       0     28       0       0
team   1       2      10      0       0     33       0
unknown 0       0       0       0       0      0      88

*****PRECISION RECALL*****
Class   Precision(%)  Recall(%)
byte    66.67         69.44
edgar   92.00         96.67
jean    63.93         84.78
su      68.63         48.61
tam     73.68        100.00
team    100.00        74.51
unknown 96.39        100.00
```


Use Image Classifier model into iOS app



The screenshot shows the Xcode interface with the project path: `FaceRecognition > FaceRecognition > Resources > Model > ImageClassifierV1.mlmodel`. The interface is divided into three main sections:


- Machine Learning Model**
 - Name: ImageClassifierV1
 - Type: Image Classifier
 - Size: 99 KB
 - Author: Su Van Ho
 - Description: A model trained using CreateML
 - License: Unspecified
- Model Class**
 - ImageClassifierV1 (Automatically generated Swift model class)
- Model Evaluation Parameters**

Name	Type	Flexibility	Description
Inputs			
image	Image (Color 299 x 299)	299... x 299...	Input image to be classified
Outputs			
classLabelProbs	Dictionary (String → Double)		Probability of each category
classLabel	String		Most likely image category

Time to demo



- You don't need to be a Machine Learning expert with Apple's frameworks.
- Depend on your data, then sometimes, some mistakes come.



With Apple's frameworks,
you can easily
to implement
Machine Learning
into your app.

Thanks!

Contact Nimble

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