Microsoft

Microsoft Build

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Microsoft

Train an Image Classifier From the Command Line like the Pros do

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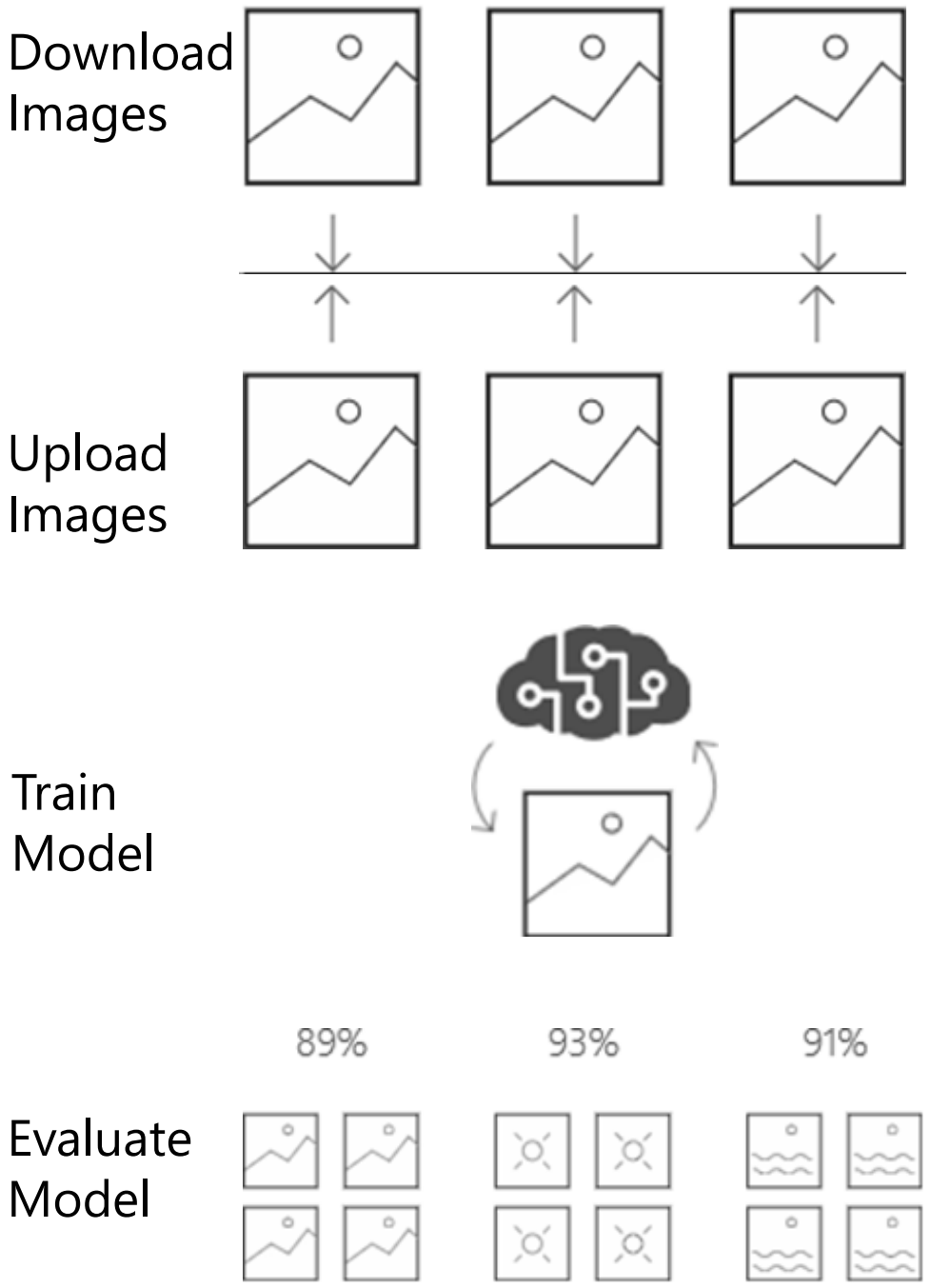
Train a custom image classifier

We are going to use the Bing API to return images for a selected subject. We will then use these images to create our own image classifier using the Microsoft Custom Vision API.

We are then going to test our Model

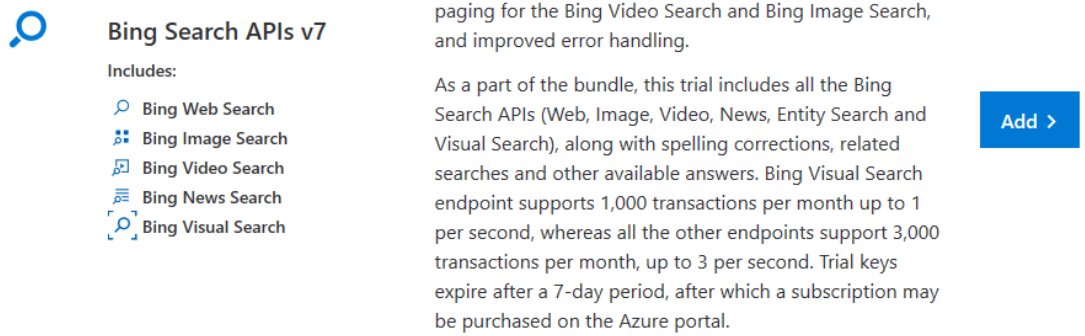
We are then going to build a small application to use the model.

http://aka.ms/TrainImage



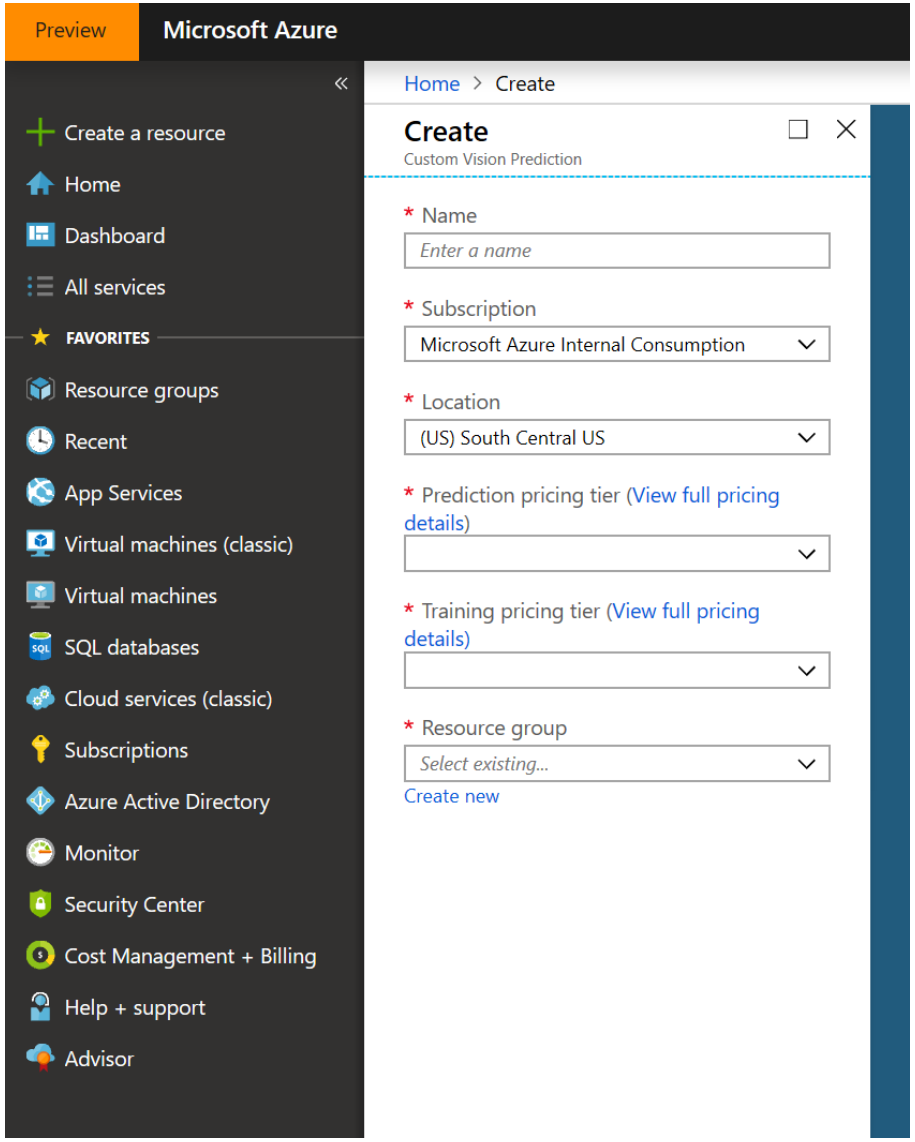
Creating New Bing Image Search Key

To retrieve your Bing Image API key start here: http://aka.ms/BSAPI



Creating New CustomVision Key

To create your CustomVision Key here: http://aka.ms/BuildCV



Using the BingImageCLI Tool to download images

```
C:\Users\Admin\Destop\TrainCustomImage\BingImageCli


BingImageCLI.exe -k yourkey -s “SearchTerm” -l
ShareCommercially -p
C:\Users\Admin\Destop\TrainCustomImage\BuildDemo\Images
-m 50 -fmax 4000000
```

Creating New Custom Vision

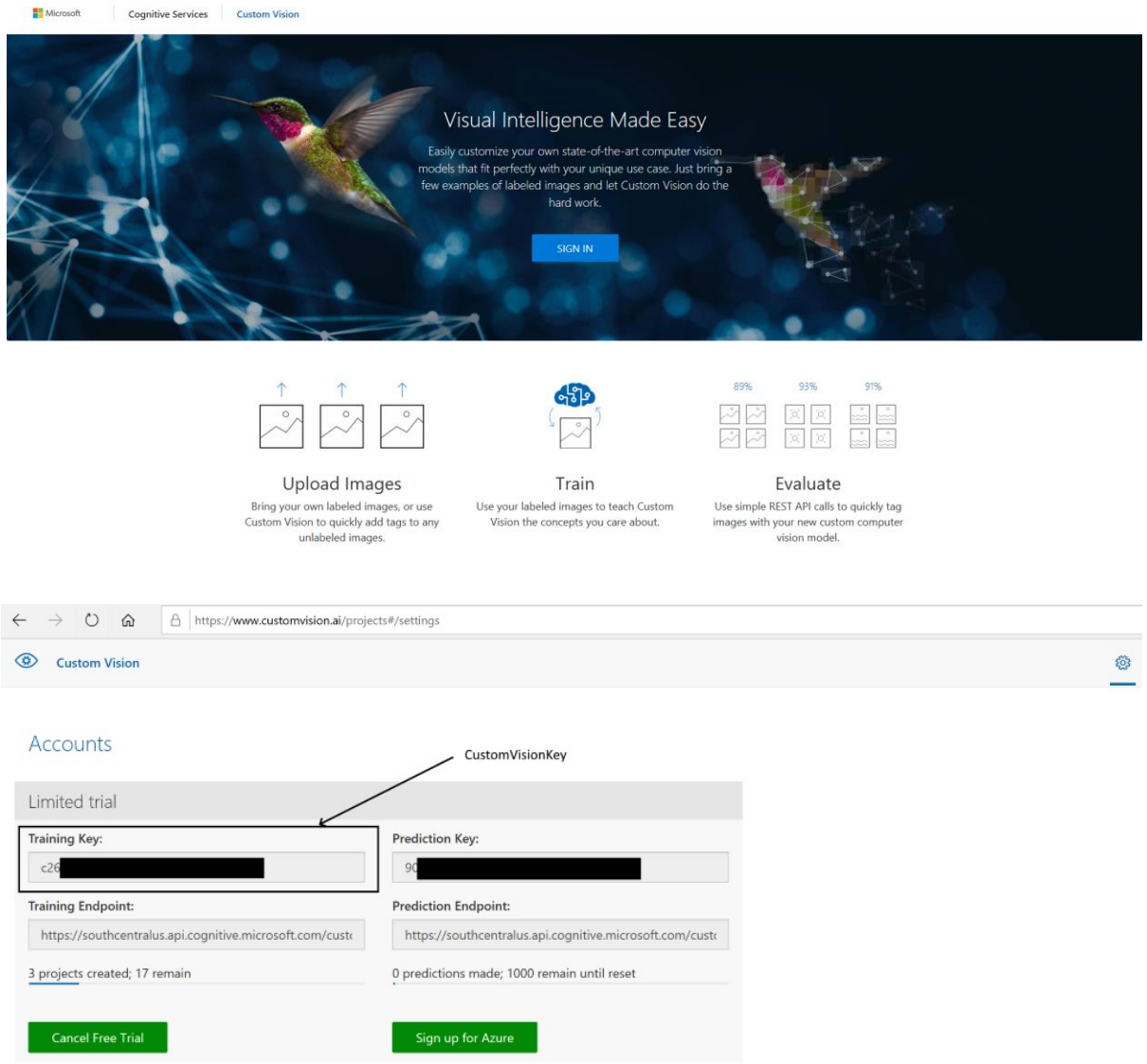
To retrieve your Custom Vision API key start here: http://www.customvision.ai

Click Sign in
Click on the Setting Cog on the top right

Make a Note of your

Training Key

Training Endpoint



Using the CustomImageCLI Tool to create your Model

```
C:\Users\Admin\Destop\TrainCustomImage\CustomVisionCli


CustomVisionCLI.exe -k yourkey -p
“C:\Users\Admin\Destop\TrainCustomImage\Images” -n
NameofProject
```

Testing your CustomVision Model

```
C:\Users\Admin\Destop\TrainCustomImage\CustomVisionCli


CustomVisionCLI.exe -k yourkey -p
“C:\Users\Admin\Destop\TrainCustomImage\TestImage” -n
NameofProject -q
```

Creating your first .NetCore Application

Open Command windows key + R

Type in CMD

Go to C:\Users\Admin\Destop\TrainCustomImage\BuildApp

Create a new .NetCore Application

Type in dotnet new console --name MyAppName

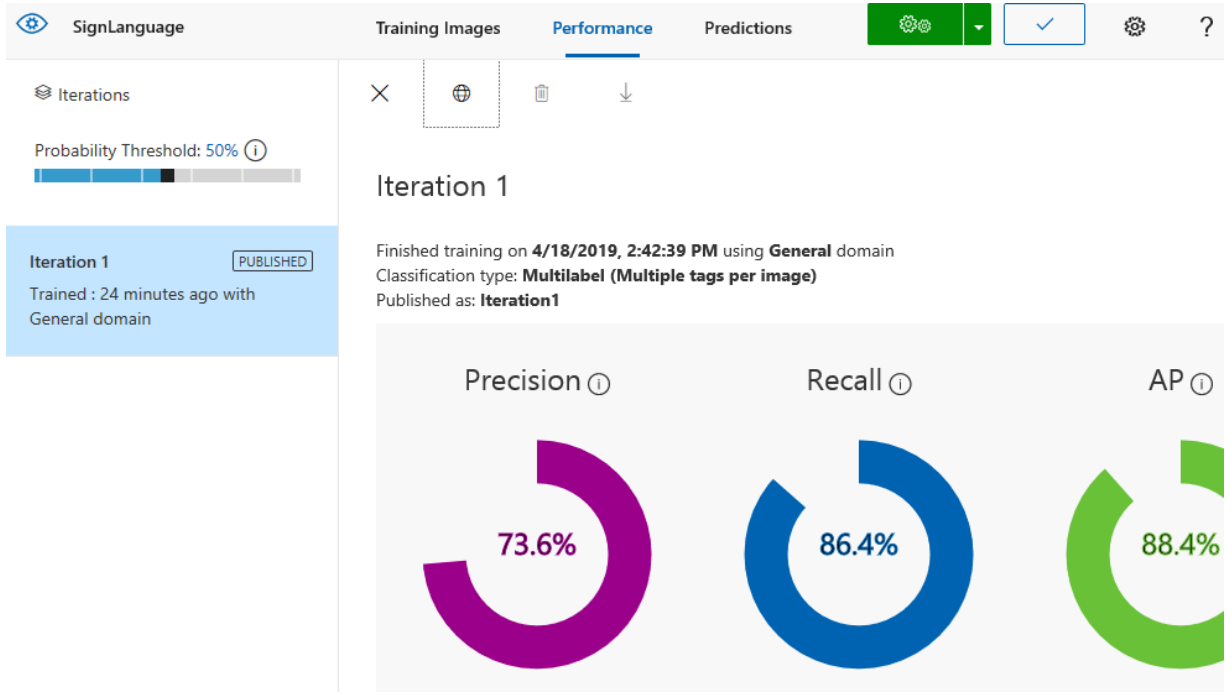
Creating your first .NetCore Application

Open the Program.cs file in Visual Studio Code

There are two placeholders for your prediction URL and prediction key.

You get the predication when you open the model in Custom Vision and click on the little World icon labelled predication Key.

Save the Program.cs to replace the Program.cs file in the BuildDemo folder



If you have an image file:

https://southcentralus.api.cognitive.microsoft.com/customvision/v3.0/Prediction/b4

Set `Prediction-Key` Header to : `e[redacted]`

Set `Content-Type` Header to : `application/octet-stream`

Set Body to : <image file>

Running your first .NetCore Application

To run Program.CS simply open a command window in the program.cs root folder and run

```
dotnet run
```

Viewing JSON output formatted

To view the formatted JSON simply copy and paste the output into https://jsonlint.com/


```
{"id":"864df9c1-ee88-4c32-a4f5-f8fa1c518f7a","project":"b4ea1c04-dd50-41d0-a4c1-6df74a3a54a9","iteration":"c7a4e1de-752c-4e08-8f7e-
af697c14cc22","created":"2019-04-18T13:46:29.829Z","predictions":[{"probability":0.5133471,"tagId":"5321c2f6-efa8-415e-b572-
3c50eaa2543b","tagName":"7"},{"probability":0.1453804,"tagId":"631870ff-7d52-4adc-81db-
736551af4f2e","tagName":"3"},{"probability":0.11937803,"tagId":"fbe4c390-7457-428f-938f-
27f91a1e909d","tagName":"9"},{"probability":0.08579584,"tagId":"59f96a1a-76b0-4022-b6af-
d177954dde51","tagName":"4"},{"probability":0.07935606,"tagId":"f1bf9013-7029-41fc-83cb-
6cb1d18c38b0","tagName":"2"},{"probability":0.06724764,"tagId":"f4498068-490d-4bc5-87de-
73ca91a2a27e","tagName":"6"},{"probability":0.0451031923,"tagId":"42e76dc6-ae4c-4c2f-bad5-
34b71f0a1dec","tagName":"8"},{"probability":0.0009882526,"tagId":"d34791ed-f99d-4bac-bf12-
00e213aa3aab","tagName":"5"},{"probability":0.0006828679,"tagId":"ccb2497b-00aa-4bbb-bc5a-
1aad311018c0","tagName":"1"},{"probability":0.0005408682,"tagId":"501e2cca-5bb2-4e08-b6c8-5d78e1c52f87","tagName":"0"}]}
```

```
{
            "id": "864df9c1-ee88-4c32-a4f5-f8fa1c518f7a",
            "project": "b4ea1c04-dd50-41d0-a4c1-6df74a3a54a9",
            "iteration": "c7a4e1de-752c-4e08-8f7e-af697c14cc22",
            "created": "2019-04-18T13:46:29.829Z",
            "predictions": [{
                        "probability": 0.5133471,
                        "tagId": "5321c2f6-efa8-415e-b572-3c50eaa2543b",
                        "tagName": "7"
```

Demo

http://aka.ms/TrainImage

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