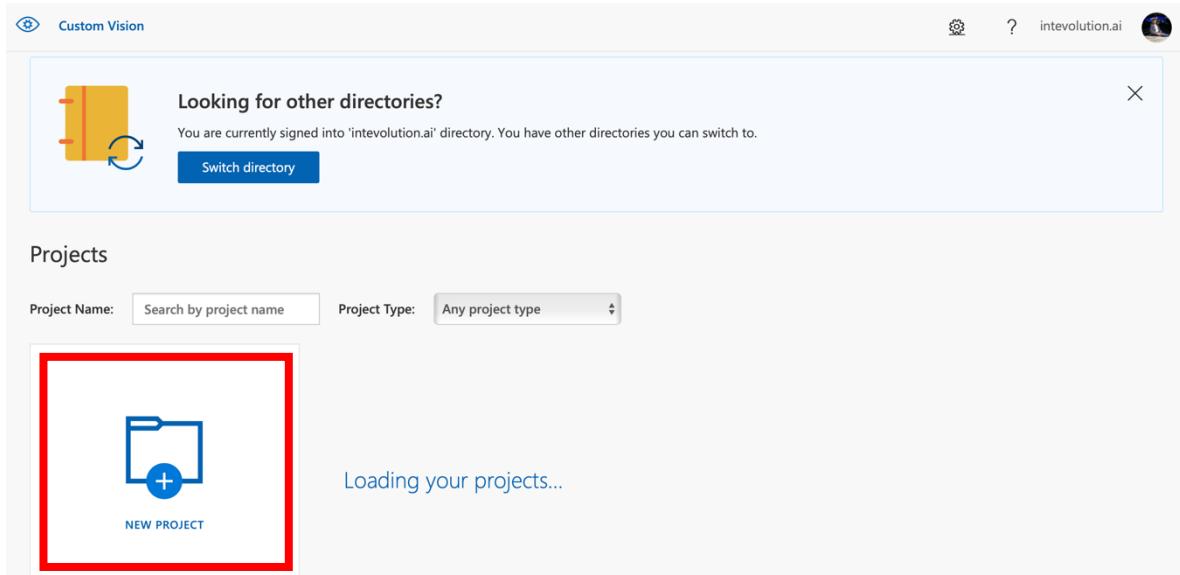
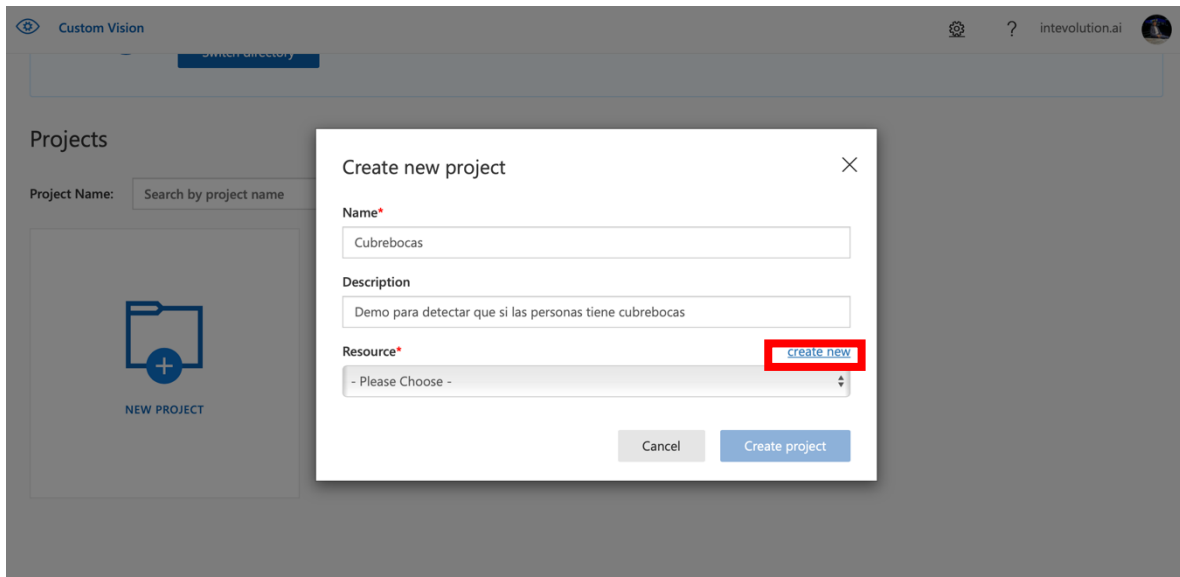


Práctica Custom Vision

Tutorial para realizar una demo de cubrebocas.



Una vez dado de alta tu servicio de Custom Visión presionaremos **“Nuevo Proyecto”**



Llenaremos los dos primeros campos y en **Resource** presioné **“create new”**

Custom Vision

Projects

Project Name: Search by project name

NEW PROJECT

Create New Resource

Name* Cubrebocas

Subscription* Suscripción de Visual Studio Enterprise (DSkills) - MPN

Resource Group* Choose a resource group [create new](#)

Kind CognitiveServices

Location South Central US

Pricing Tier S0

Create resource

Llenaremos los campos como aparece en la imagen y en **Resource Group** preione **“create new”**

Custom Vision

Projects

Project Name: Search by project name

NEW PROJECT

Create New Resource

Name* Cubrebocas

Subscription* Suscripción de Visual Studio Enterprise (DSkills) - MPN

Resource Group* Choose a resource group [create new](#)

Kind CognitiveServices

Location South Central US

Pricing Tier S0

Create resource

Create New Resource Group

Name* CubrebocasDemo

Location South Central US

Create resource group

Coloque la misma información que aparece en la imagen y después presione **“Create resource group”**

The screenshot shows the 'Create New Resource' dialog box in the Custom Vision application. The dialog has a close button (X) in the top right corner. It contains the following fields and options:

- Name***: A text input field containing 'Cubre bocas'.
- Subscription***: A dropdown menu showing 'Suscripción de Visual Studio Enterprise (DSkills) - MPN'.
- Resource Group***: A dropdown menu showing 'Cubre bocasDemo'. There is a 'create new' link to the right of the dropdown.
- Kind**: A dropdown menu showing 'CognitiveServices'.
- Location**: A dropdown menu showing 'South Central US'.
- Pricing Tier**: A dropdown menu showing 'S0'.

At the bottom right of the dialog, there is a blue button labeled 'Create resource', which is highlighted with a red rectangular box.

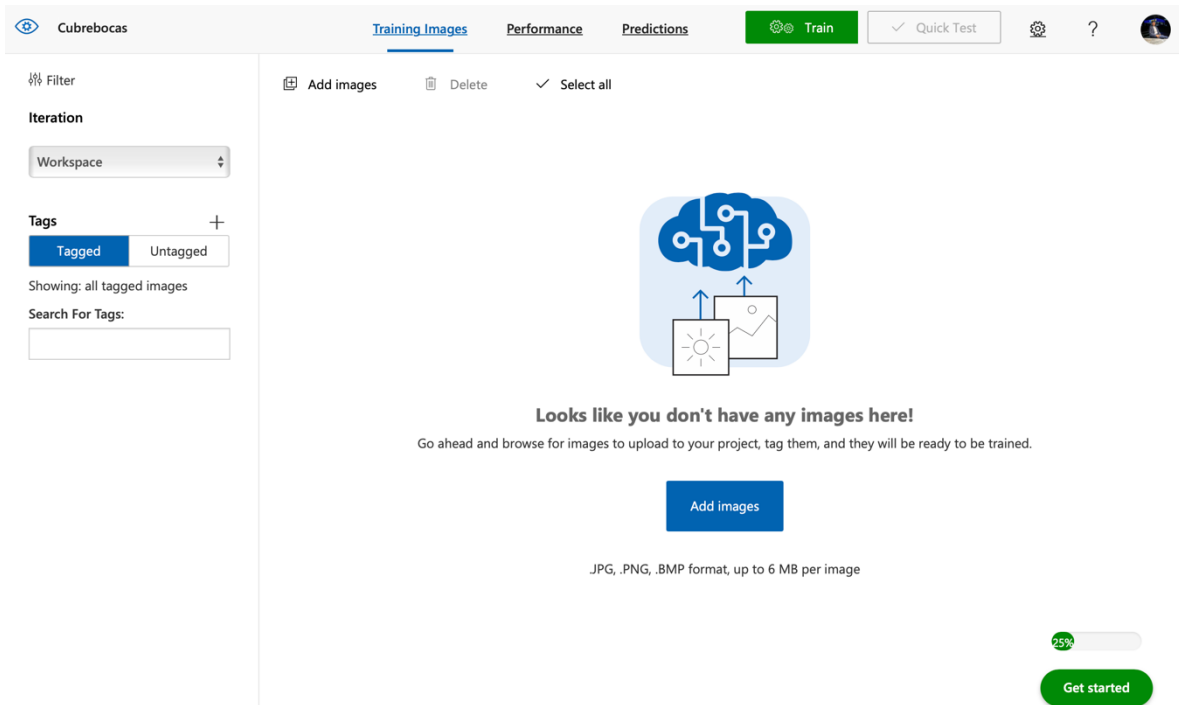
su tabla debe aparecer de la siguiente manera, si es así presione **“Create resource”**

The screenshot shows the 'Create new project' dialog box in the Custom Vision application. The dialog has a close button (X) in the top right corner. It contains the following fields and options:

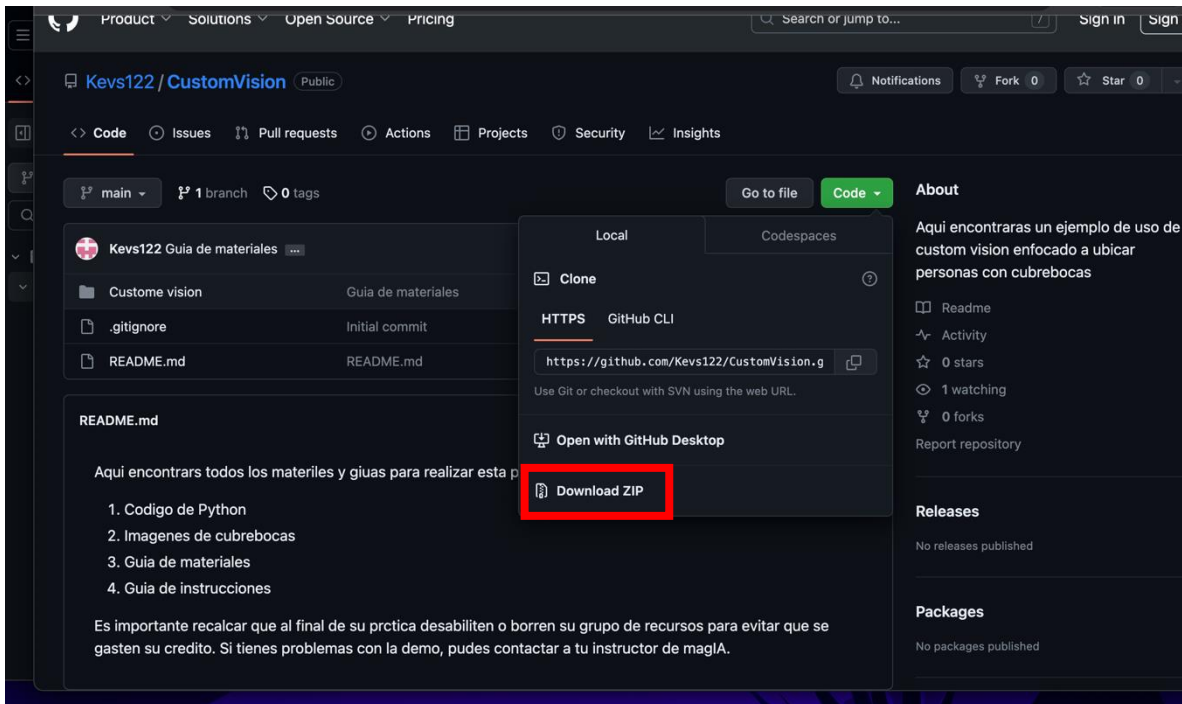
- Name***: A text input field containing 'Cubre bocas'.
- Description**: A text input field with the placeholder 'Enter project description'.
- Resource***: A dropdown menu showing 'Cubre bocas [S0]'. There is a 'create new' link to the right of the dropdown and a 'Manage Resource Permissions' link below it.
- Project Types**: A section with a help icon (i) and two radio buttons: 'Classification' and 'Object Detection' (which is selected).
- Domains**: A section with several radio buttons: 'General [A1]' (selected), 'General', 'Logo', 'Products on Shelves', 'General (compact) [S1]', and 'General (compact)'.

At the bottom of the dialog, there are two buttons: 'Cancel' and 'Create project'. The 'Create project' button is highlighted with a red rectangular box.

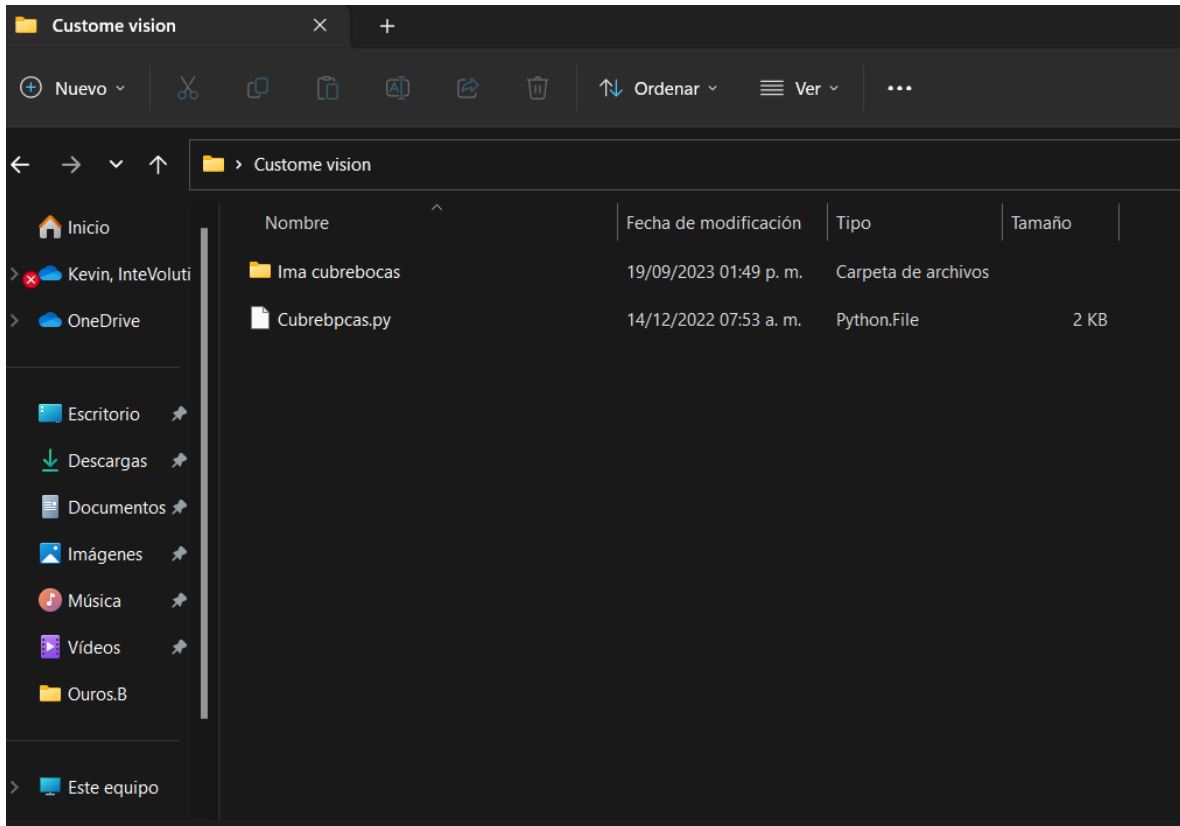
Les abrirá el siguiente menú el cual deben llenar como se muestra en la imagen y después presionar **“Create resource”**



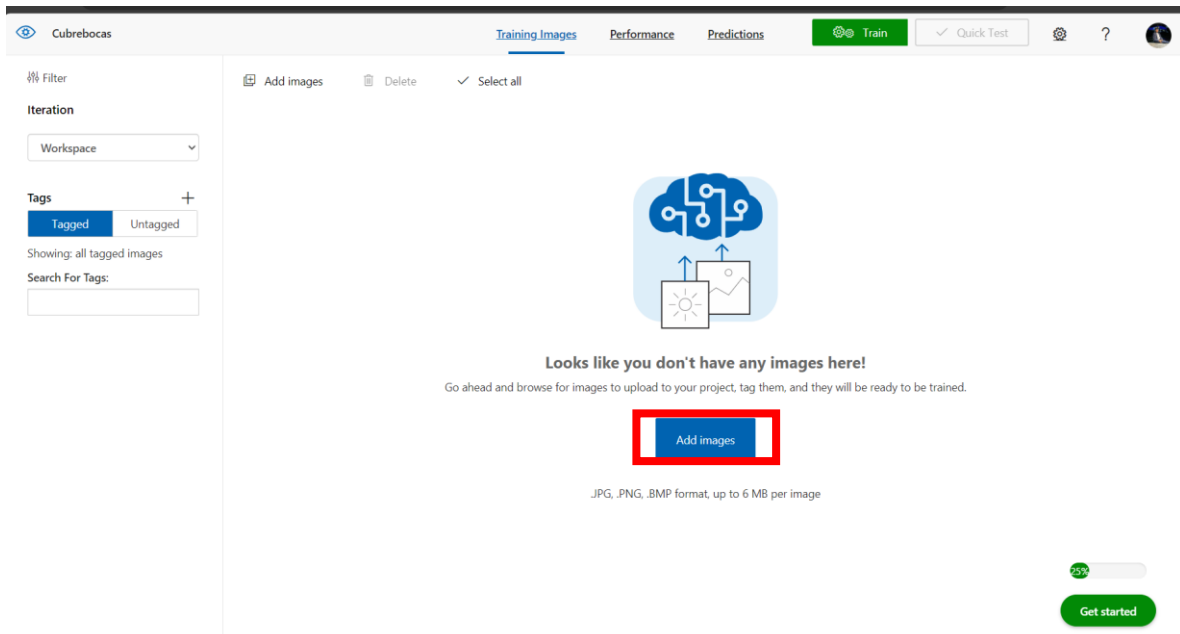
Les abrirá esta página, es momento de cargar las imágenes, para ello iremos a <https://github.com/Intevolutionai/CustomVision/tree/main>



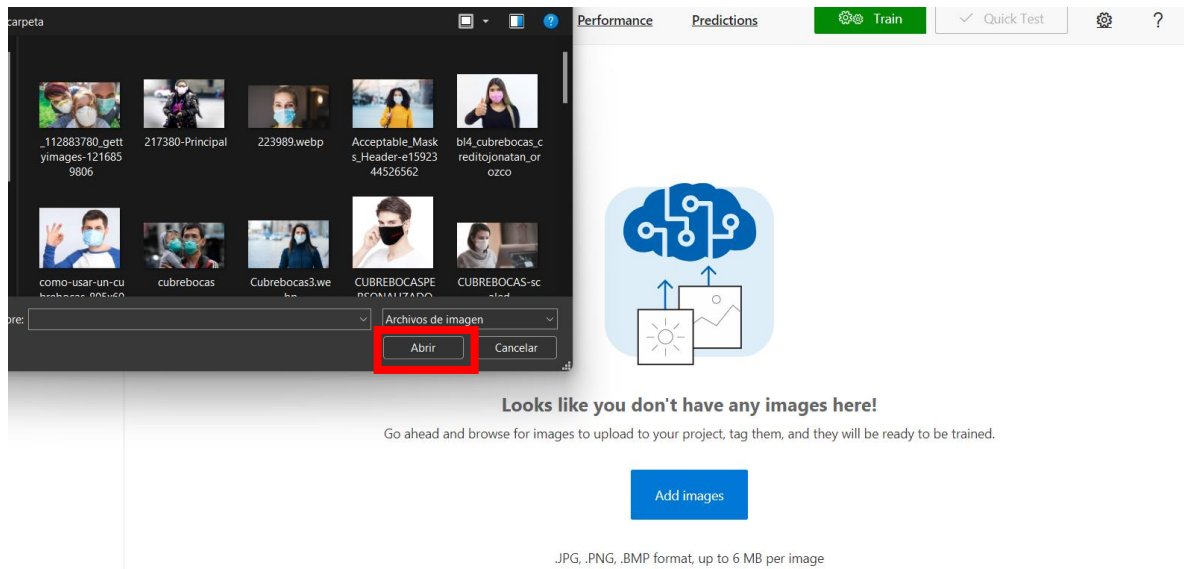
Presione “**Open Github Desktop**” para descargar el archivo completo



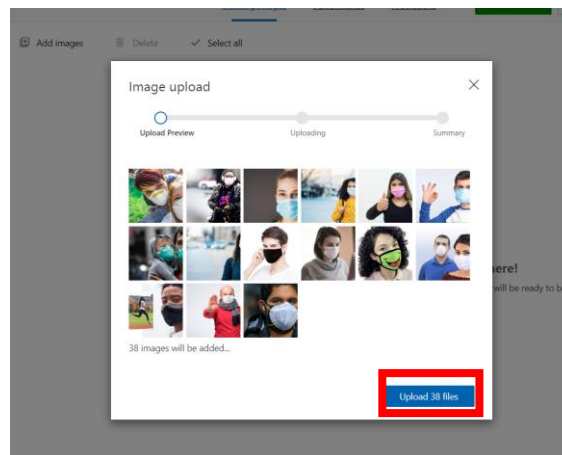
Una vez descargado iremos a Custom Vision y subiremos las imágenes



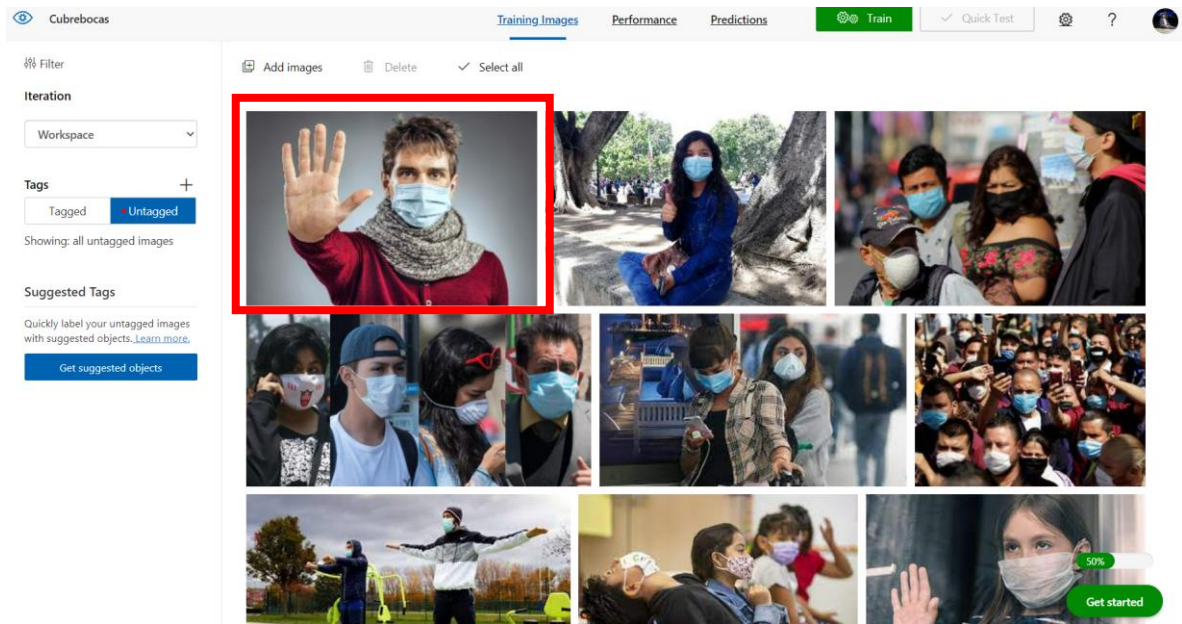
Para ello presioné “Add imagen”



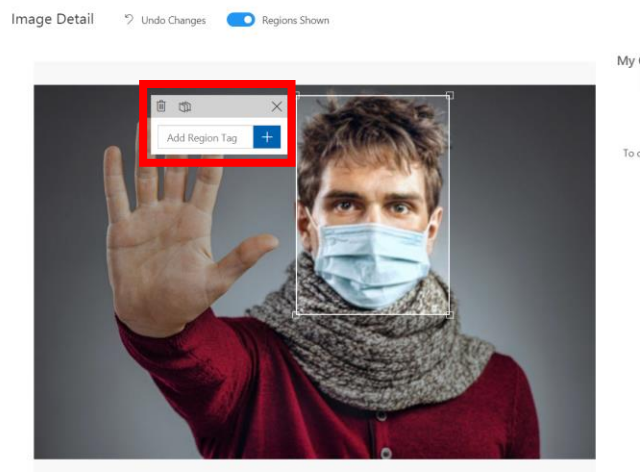
Agrega todas las imágenes de la carpeta “**Ima cubrebocas**” y presioné **Abrir**



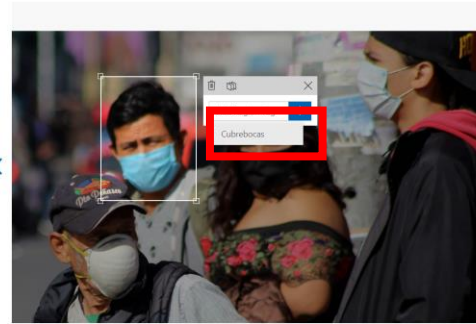
Sube todas las imágenes con “**Upload # files**”



Verás todas tus imágenes aquí, presiona la primera imagen para empezar a etiquetar



Para el proceso de etiquetado remarca con tu cursor el objeto, de la misma forma en **“Add Region Tag”** pondremos el nombre de lo que se quiere etiquetar (es importante que por cada nombre/etiqueta debe tener un mínimo de 15 imágenes) este proceso se debe hacer con las 38 imágenes del archivo



Debe quedar de esta manera y demos en el símbolo de +, de la misma forma con las siguientes imágenes solo presionemos el nombre de “cubre bocas” haga esto hasta acabar con esta tarea

ubrebocas

Training Images Performance Predictions **Train** Quick Te

Try page

on

rkspace

agged Untagged

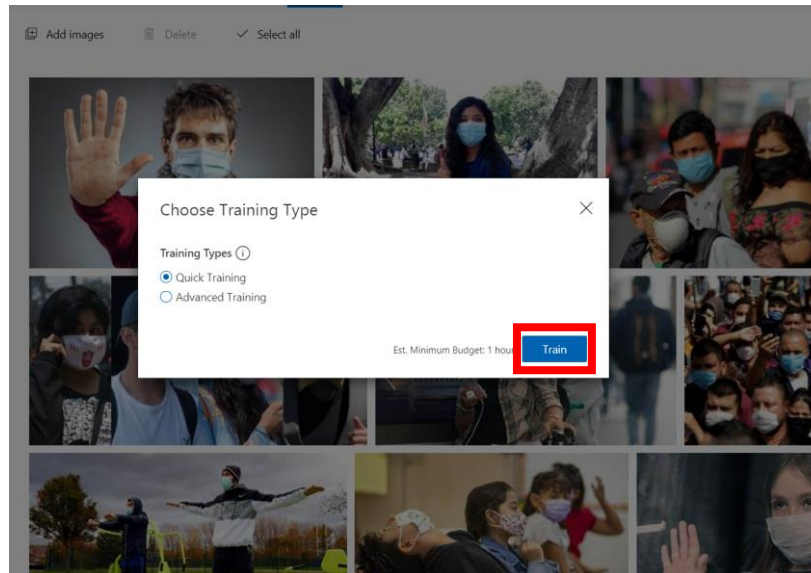
ig: all tagged images

For Tags:

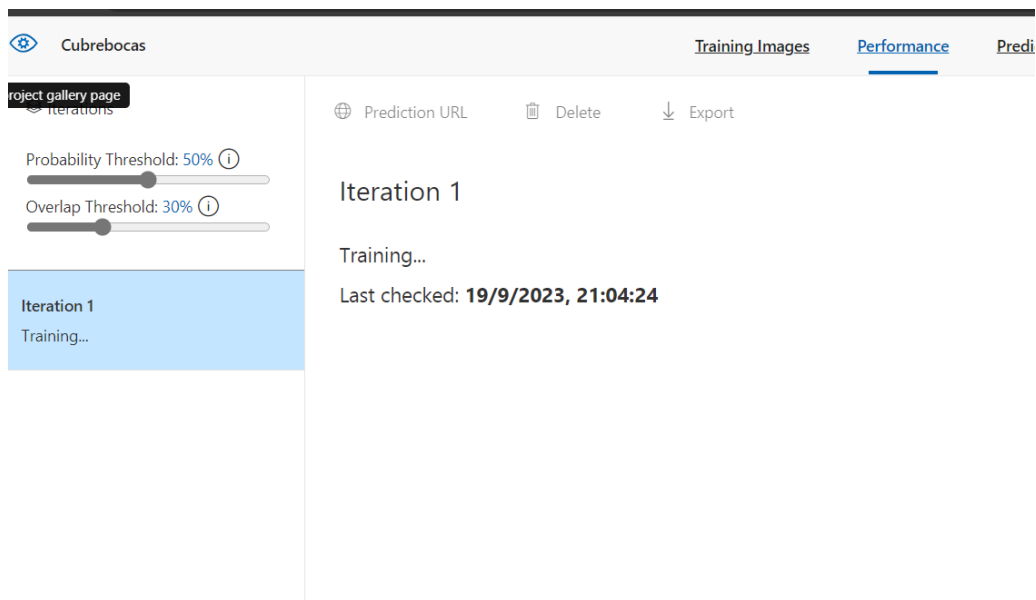
ubrebocas 12

Add images Delete Select all

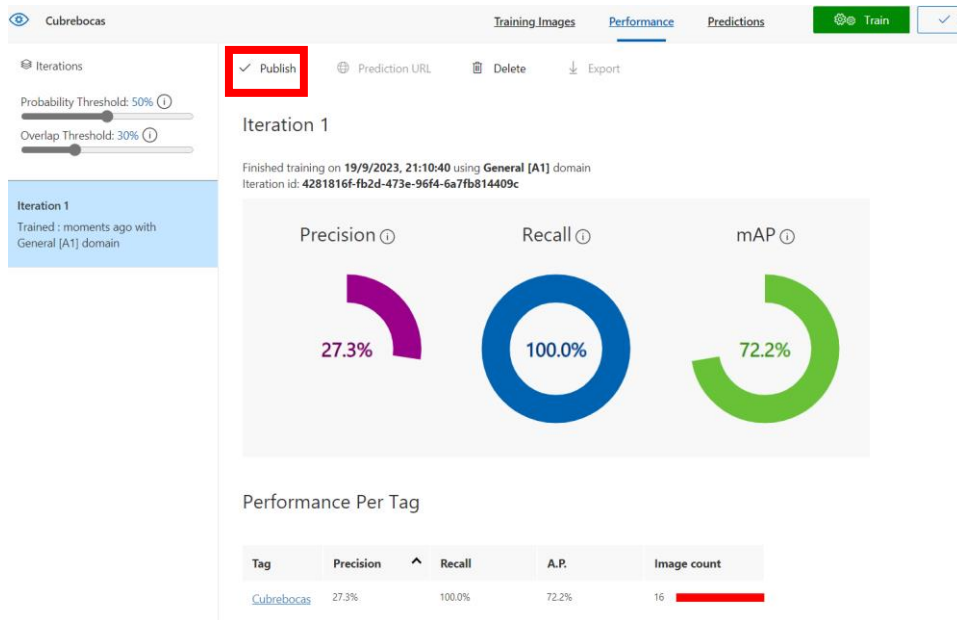
Presione “Train” para empezar a entrenar nuestro modelo.



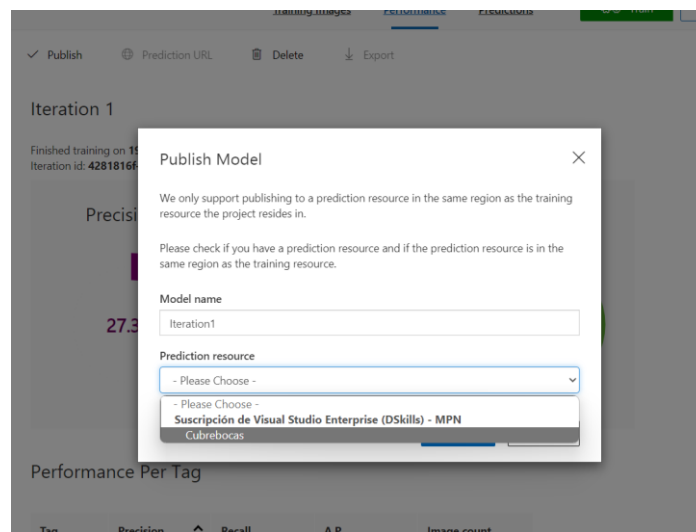
Deje la configuración como se ve a continuación y presione **“Train”**



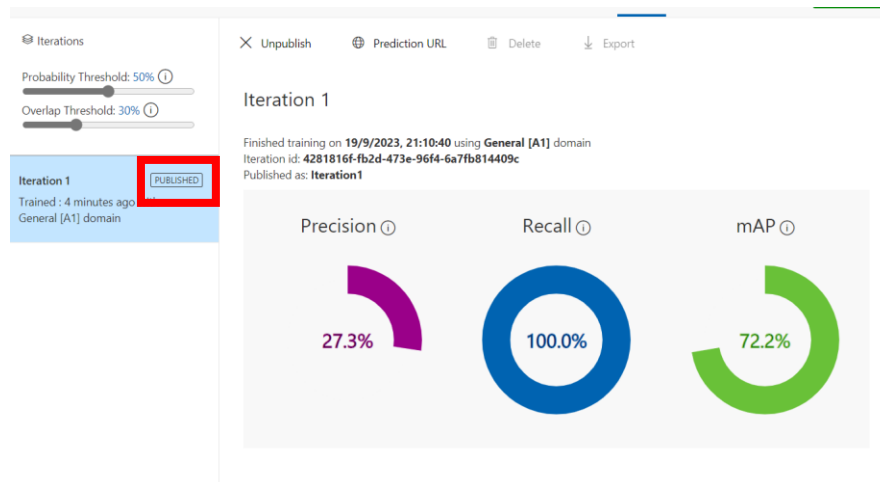
Esperemos a que el entrenamiento termine esto puede durar entre 30 a 1 hora dependiendo de las imágenes y la delicadeza de cada etiquetado



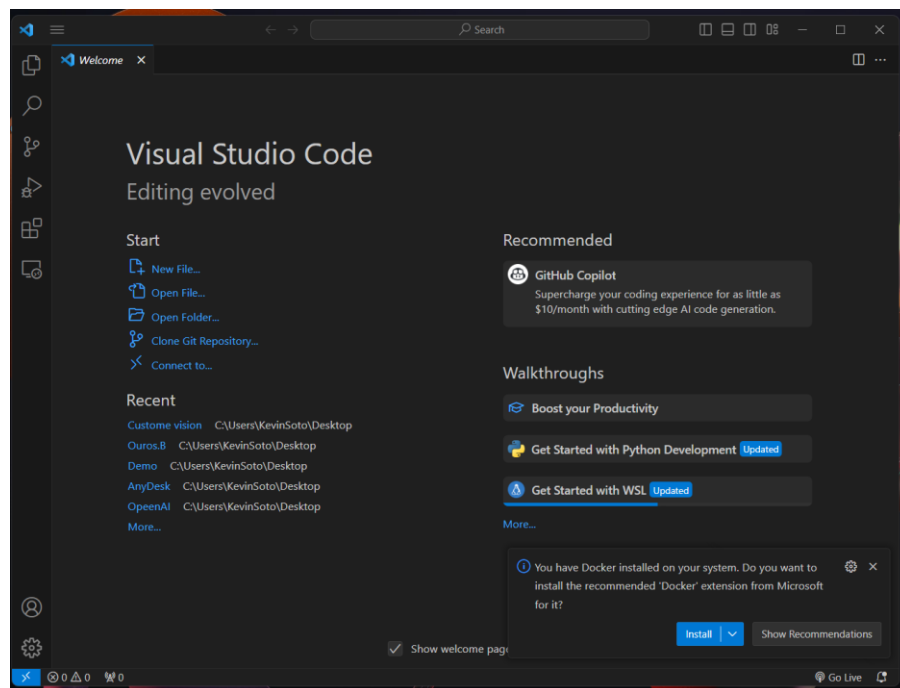
Ya dado el entrenamiento daremos al botón de “**publish**” para pasar a ocupar nuestra API



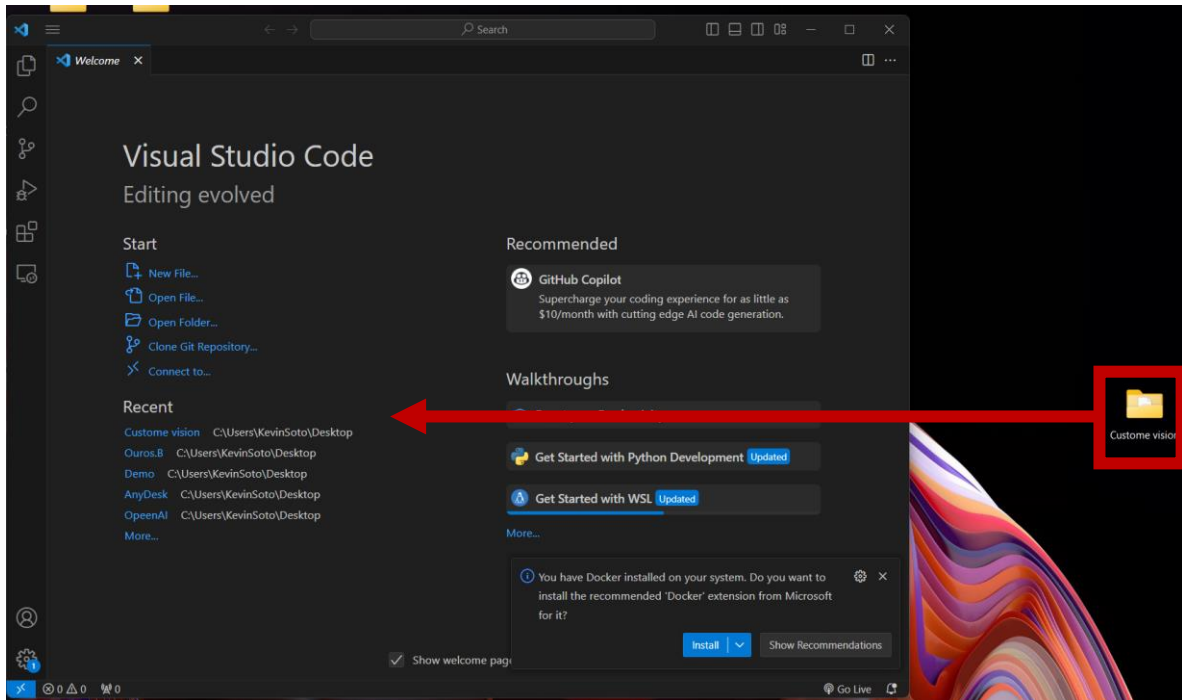
Finalmente, llene el formato como aparece en la imagen y guarde los cambios



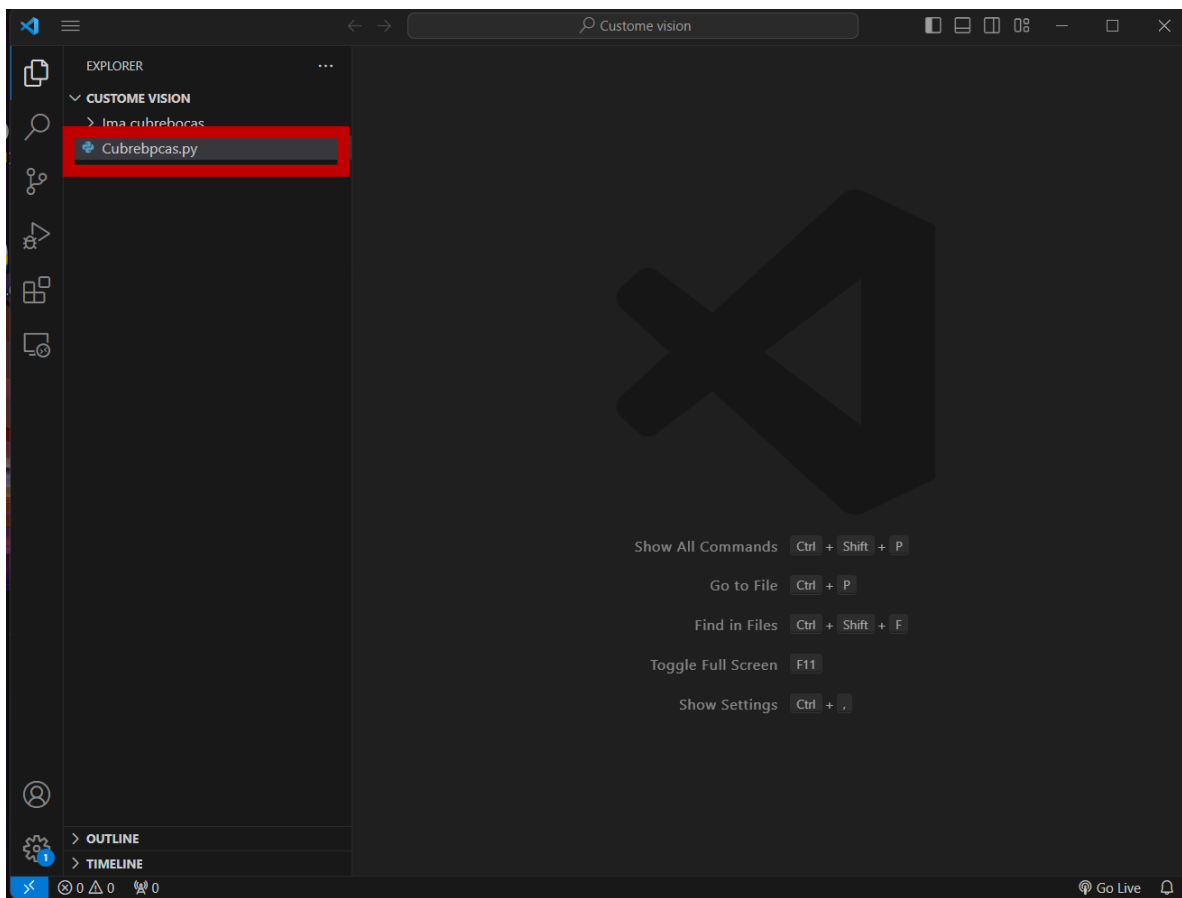
Sabremos que fue publicado cuando en la parte izquierda aparezca **“PUBLISHED”**, empezaremos a llenar los siguientes campos



Ahora abre **Visual Studio Code** aquí cargaremos nuestro código



Arrastra la carpeta **Custom Vision** que descargaste de Github



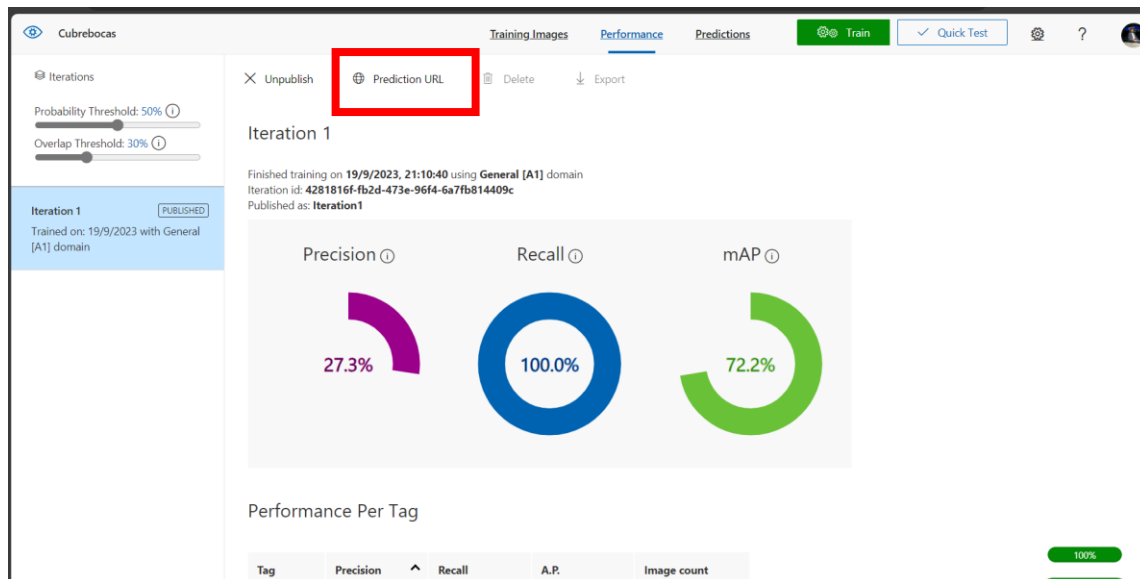
Se abrirá de esta manera, tendrás que presionar el archivo **Cubrebocas.py**

```

1 from azure.cognitiveservices.vision.customvision.prediction import CustomVisionPredictionClient
2 from msrest.authentication import ApiKeyCredentials
3
4
5 prediction_key = "llennar con tus datos"
6 ENDPOINT = "llennar con tus datos"
7 project_id = "llennar con tus datos"
8 publish_iteration_name = "llennar con tus datos"
9
10 prediction_credentials = ApiKeyCredentials(in_headers={"prediction-key": pred
11 predictor = CustomVisionPredictionClient(ENDPOINT, prediction_credentials)
12
13 with open("C:/Users/Kevin/Desktop/Custom vision/1aa cubrebocas/descarga.jpg")
14 results = predictor.detect_image(project_id, publish_iteration_name, test
15
16 for prediction in results.predictions:
17     print("\t" + prediction.tag_name + ": {0:.2f}%".format(prediction.confidence),
18
19

```

Cambiaremos los valores marcados, esto lo haremos desde la página de **Custom Vision**.



prediction_key lo encontramos presionando **Prediction URL**

How to use the Prediction API



If you have an image URL:

```
https://southcentralus.api.cognitive.microsoft.com/customvision/v3.0/Prediction/e3(
```

Set **Prediction-Key** Header to: **f83049f1024148b980493ec4db7a37b2**

Set **Content-Type** Header to: **application/json**

Set Body to: **{"Url": "https://example.com/image.png"}**

If you have an image file:

```
https://southcentralus.api.cognitive.microsoft.com/customvision/v3.0/Prediction/e3(
```

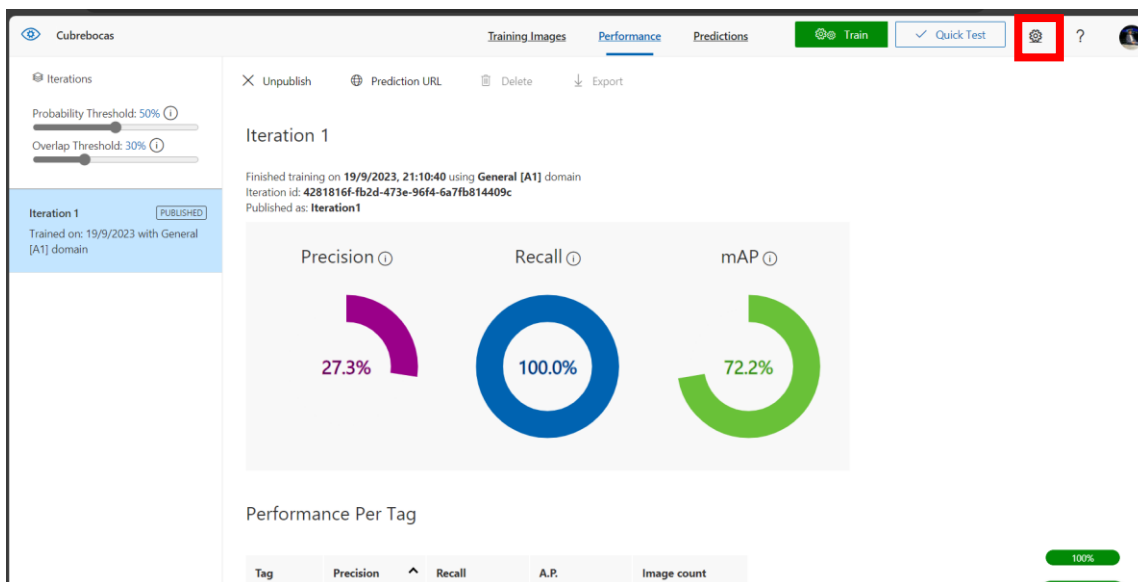
Set **Prediction-Key** Header to: **f83049f1024148b980493ec4db7a37b2**

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

Set Body to: **<image file>**

Got it!

Aquí solo copiaremos este valor (los valores siempre cambiarán nunca serán los mismos a la imagen)



Ahora buscaremos **ENDPOIN**, presionando el icono de ranura

The screenshot shows the 'Project Settings' page for a project named 'Cubrelocas'. The 'General' section contains the project name, ID, and description. The 'Usage' section shows training images uploaded and tags created. The 'Domains' section has radio buttons for 'General [A1]', 'General', and 'Logo'. The 'Resources' section on the right lists subscription details, key, endpoint, resource ID, and pricing tier. The 'Endpoint' field is highlighted with a red box.

Project Settings

General

Project Name*
Cubrelocas

Project Id
e302ab97-f8cb-4fbd-9710-d5cddb3593e7

Description
Enter project description

Usage: ⓘ
31 training images uploaded; 99969 remain
1 tags created; 499 remain
1 iterations saved; 19 remain

Domains:
☒ General [A1]
☐ General
☐ Logo

Settings

Resources:

Cubrelocas
Subscription: Suscripción de Visual Studio Enterprise (DSkills) - MPN
Resource Group: CubrelocasDemo
Resource Kind: All Cognitive Services

Key:
f83049f1024148b980493ec4db7a37b2

Endpoint:
https://southcentralus.api.cognitive.microsoft.com/

Resource Id:
/subscriptions/3433c700-6289-4d1e-a275-61782c879546/resourceGroups/CubrelocasDemo/providers/Mic

Pricing Tier: S0
1 projects created; 99 remain
Unlimited

Aquí copiaremos estos valores (los valores siempre cambiarán nunca serán los mismos a la imagen)

The screenshot shows the 'Project Settings' page for a project named 'Cubrelocas'. The 'General' section contains the project name, ID, and description. The 'Usage' section shows training images uploaded and tags created. The 'Domains' section has radio buttons for 'General [A1]', 'General', and 'Logo'. The 'Resources' section on the right lists subscription details, key, endpoint, resource ID, and pricing tier. The 'Project Id' field in the 'General' section is highlighted with a red box.

Project Settings

General

Project Name*
Cubrelocas

Project Id
e302ab97-f8cb-4fbd-9710-d5cddb3593e7

Description
Enter project description

Usage: ⓘ
31 training images uploaded; 99969 remain
1 tags created; 499 remain
1 iterations saved; 19 remain

Domains:
☒ General [A1]
☐ General
☐ Logo

Settings

Resources:

Cubrelocas
Subscription: Suscripción de Visual Studio Enterprise (DSkills) - MPN
Resource Group: CubrelocasDemo
Resource Kind: All Cognitive Services

Key:
f83049f1024148b980493ec4db7a37b2

Endpoint:
https://southcentralus.api.cognitive.microsoft.com/

Resource Id:
/subscriptions/3433c700-6289-4d1e-a275-61782c879546/resourceGroups/CubrelocasDemo/providers/Mic

Pricing Tier: S0
1 projects created; 99 remain
Unlimited

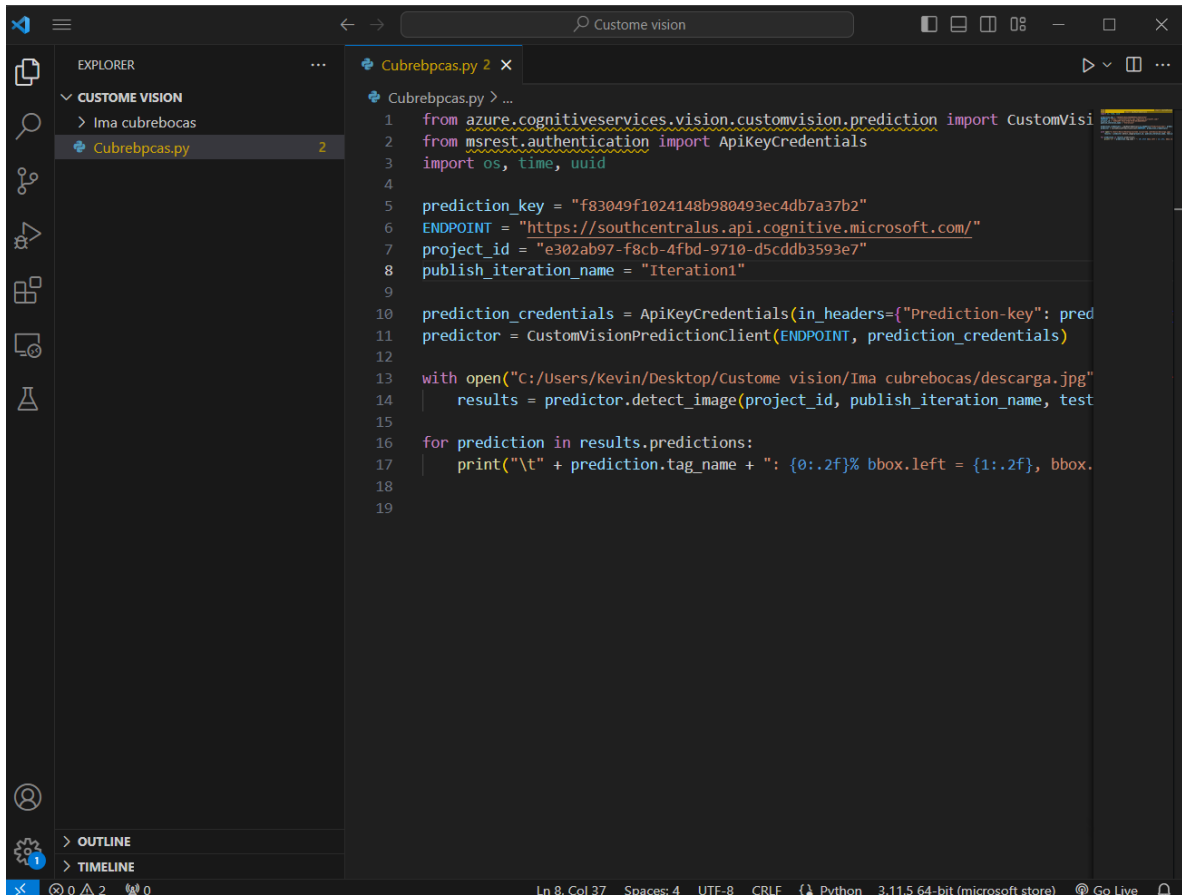
En este apartado también encontramos **project_id**, aquí copiaremos estos valores

The screenshot shows the 'Performance' tab in the Azure ML Studio interface. The top navigation bar includes 'Training Images', 'Performance' (highlighted with a red box), 'Predictions', 'Train', and 'Quick Test'. The left sidebar shows 'Project Settings' with fields for 'Project Name' (Cubrelocas), 'Project Id' (e302ab97-f8cb-4fbd-9710-d5cddb3593e7), and 'Description'. The main content area is divided into 'Settings' and 'Resources'. The 'Resources' section displays details for the 'Cubrelocas' subscription, including the key, endpoint, resource ID, and pricing tier (S0).

Finalmente, nos falta **publish_iteration_name**, vamos a **Performance**

The screenshot shows the 'Performance' tab for 'Iteration 1'. The left sidebar lists 'Iterations' with a 'PUBLISHED' button. The main content area displays the training completion message: 'Finished training on 19/9/2023, 21:10:40 using General [A1] domain'. Below this, the performance metrics are shown as donut charts: Precision at 27.3%, Recall at 100.0%, and mAP at 72.2%. A red box highlights the 'Published as: Iteration 1' text. At the bottom, there is a table for 'Performance Per Tag' with columns for Tag, Precision, Recall, A.P., and Image count.

Copiaremos este valor



```

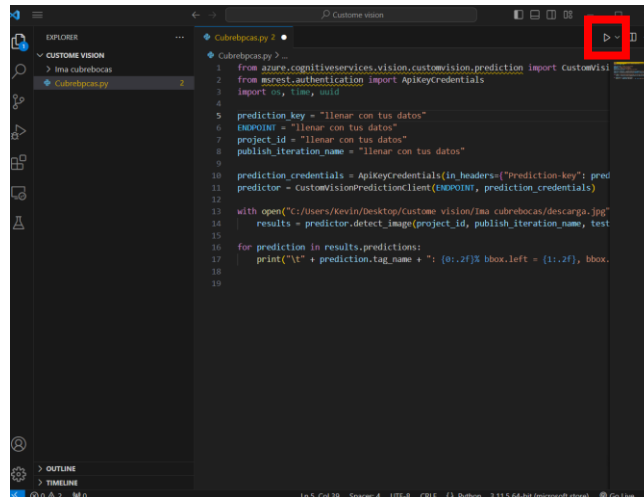
1 from azure.cognitiveservices.vision.customvision.prediction import CustomVisionPredictionClient
2 from msrest.authentication import ApiKeyCredentials
3 import os, time, uuid
4
5 prediction_key = "f83049f1024148b980493ec4db7a37b2"
6 ENDPOINT = "https://southcentralus.api.cognitive.microsoft.com/"
7 project_id = "e302ab97-f8cb-4fbd-9710-d5cddb3593e7"
8 publish_iteration_name = "Iteration1"
9
10 prediction_credentials = ApiKeyCredentials(in_headers={"Prediction-key": prediction_key})
11 predictor = CustomVisionPredictionClient(ENDPOINT, prediction_credentials)
12
13 with open("C:/Users/Kevin/Desktop/Custom vision/lma cubrebocas/descarga.jpg") as image:
14     results = predictor.detect_image(project_id, publish_iteration_name, image.open())
15
16 for prediction in results.predictions:
17     print("\t" + prediction.tag_name + ": {0:.2f}% bbox.left = {1:.2f}, bbox.right = {2:.2f}, bbox.top = {3:.2f}, bbox.bottom = {4:.2f}".format(prediction.confidence, prediction.bbox.left, prediction.bbox.right, prediction.bbox.top, prediction.bbox.bottom))
18
19

```

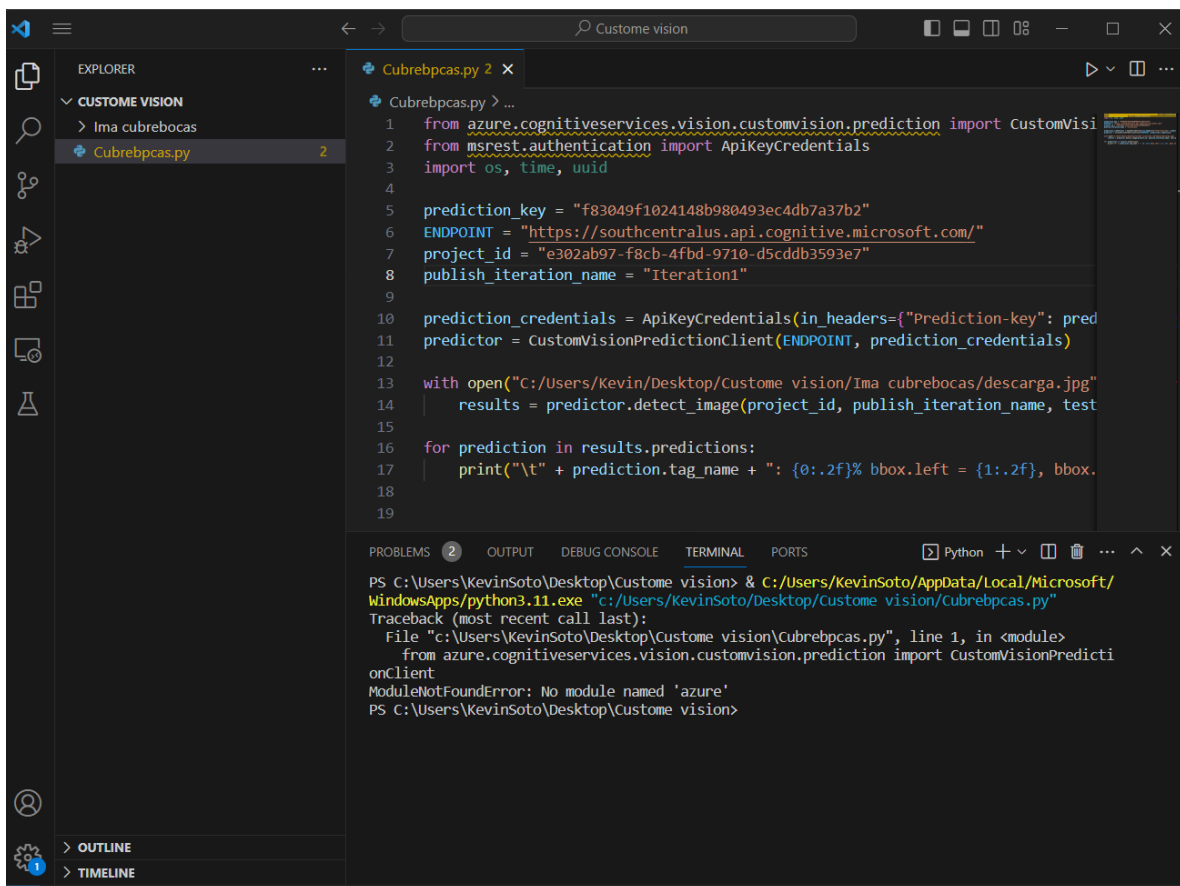
Todos los valores deben aparecer de esta manera, puedes guardar los avances presionado **Control + S**



Para cambiar la imagen modificamos la línea 13 con la ruta de acceso de tu imagen



Finalmente, presionaremos el botón de “play” para que corra su programa



Les salta ese error, hace falta descargar los módulos, para ello copia los siguientes scripts

```

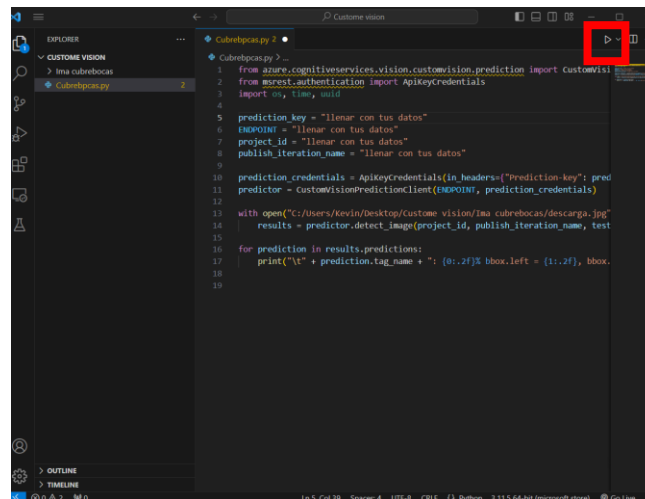
10 prediction_credentials = ApiKeyCredentials(in_headers={"Prediction-key": pred
11 predictor = CustomVisionPredictionClient(ENDPOINT, prediction_credentials)
12
13 with open("C:/Users/Kevin/Desktop/Custom vision/Ima cubrebocas/descarga.jpg"
14         results = predictor.detect_image(project_id, publish_iteration_name, test
15
16 for prediction in results.predictions:
17     print("\t" + prediction.tag_name + ": {0:.2f}% bbox.left = {1:.2f}, bbox.
18
19

```

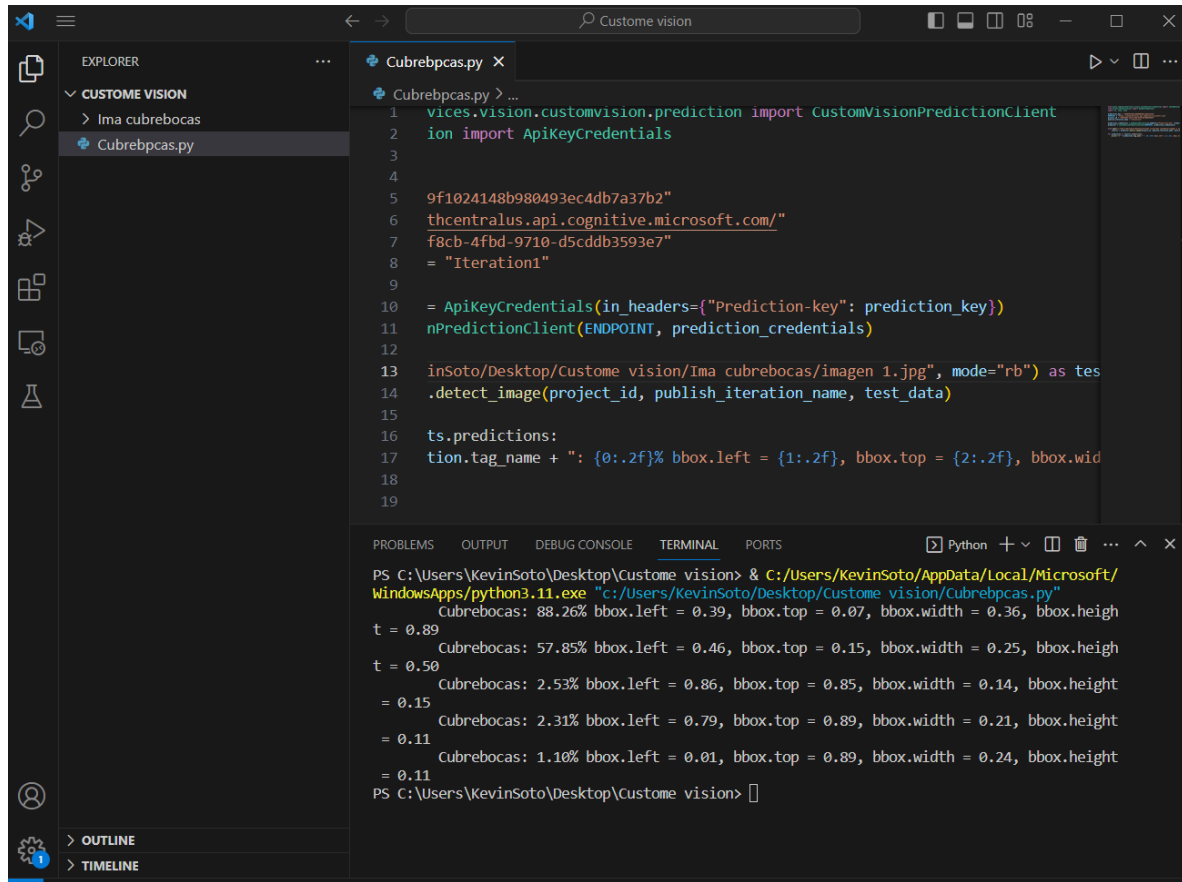
PROBLEMS OUTPUT DEBUG CONSOLE TERMINAL PORTS

PS C:\Users\KevinSoto\Desktop\Custom vision> **pip install azure-cognitiveservices-vision-customvision**
>> █

Escriba en la terminal lo siguiente: **pip install azure-cognitiveservices-vision-customvision** y dale **Enter**, verás como se descarga



Finalmente, presionaremos el botón de **“play”** para que corra su programa



```

1  vices.vision.customvision.prediction import CustomVisionPredictionClient
2  ion import ApiKeyCredentials
3
4
5  9f1024148b980493ec4db7a37b2"
6  thcentralus.api.cognitive.microsoft.com/"
7  f8cb-4fbd-9710-d5cddb3593e7"
8  = "Iteration1"
9
10 = ApiKeyCredentials(in_headers={"Prediction-key": prediction_key})
11 nPredictionClient(ENDPOINT, prediction_credentials)
12
13 inSoto/Desktop/Custom vision/Ima cubrebocas/imagen 1.jpg", mode="rb") as tes
14 .detect_image(project_id, publish_iteration_name, test_data)
15
16 ts.predictions:
17 tion.tag_name + ": {0:.2f}% bbox.left = {1:.2f}, bbox.top = {2:.2f}, bbox.wid
18
19

```

```

PS C:\Users\KevinSoto\Desktop\Custom vision> & C:/Users/KevinSoto/AppData/Local/Microsoft/WindowsApps/python3.11.exe "c:/Users/KevinSoto/Desktop/Custom vision/Cubrepcas.py"
Cubrepcas: 88.26% bbox.left = 0.39, bbox.top = 0.07, bbox.width = 0.36, bbox.height = 0.89
Cubrepcas: 57.85% bbox.left = 0.46, bbox.top = 0.15, bbox.width = 0.25, bbox.height = 0.50
Cubrepcas: 2.53% bbox.left = 0.86, bbox.top = 0.85, bbox.width = 0.14, bbox.height = 0.15
Cubrepcas: 2.31% bbox.left = 0.79, bbox.top = 0.89, bbox.width = 0.21, bbox.height = 0.11
Cubrepcas: 1.10% bbox.left = 0.01, bbox.top = 0.89, bbox.width = 0.24, bbox.height = 0.11
PS C:\Users\KevinSoto\Desktop\Custom vision>

```

Podemos ver que nos trae los resultados de porcentaje de probabilidad de acierto de encontrar cubrebocas, esto lo puedes ocupar como base para buscar otros programas que te grafiquen o solo te traigan un resultado más alto