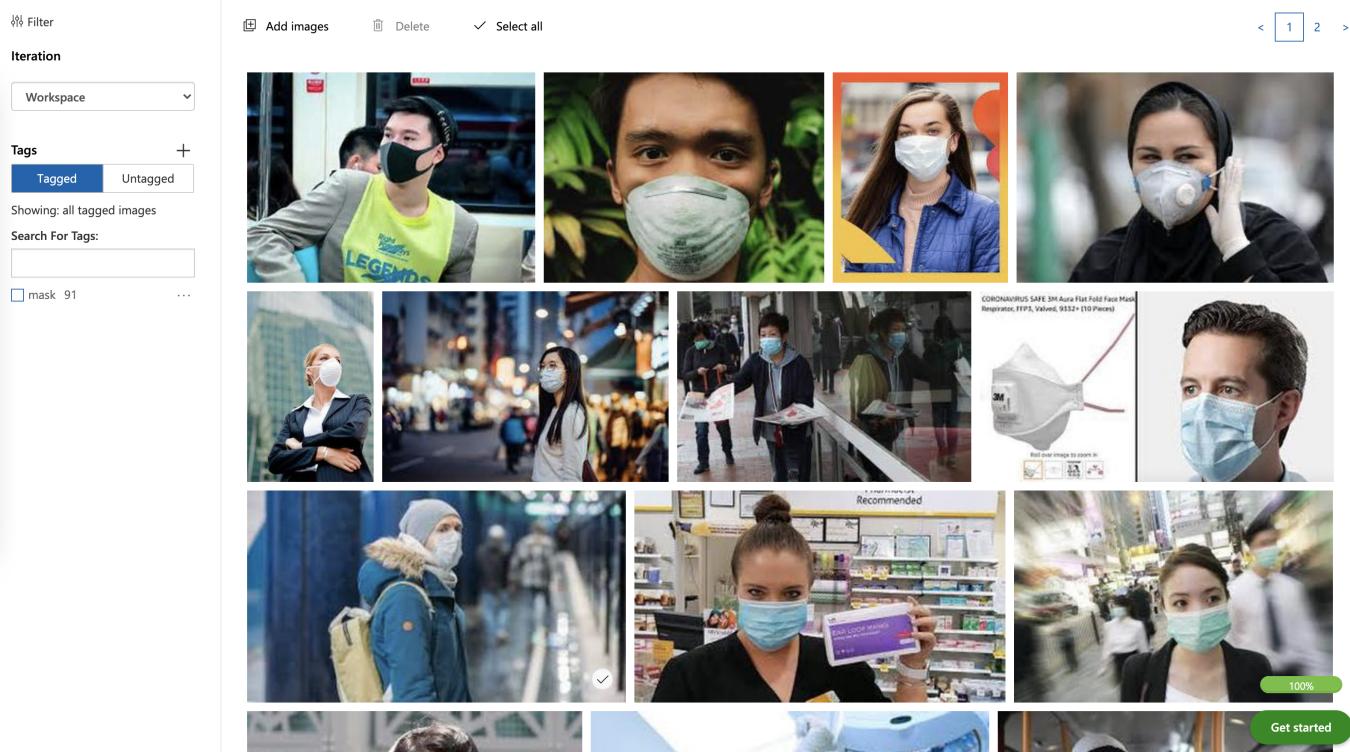
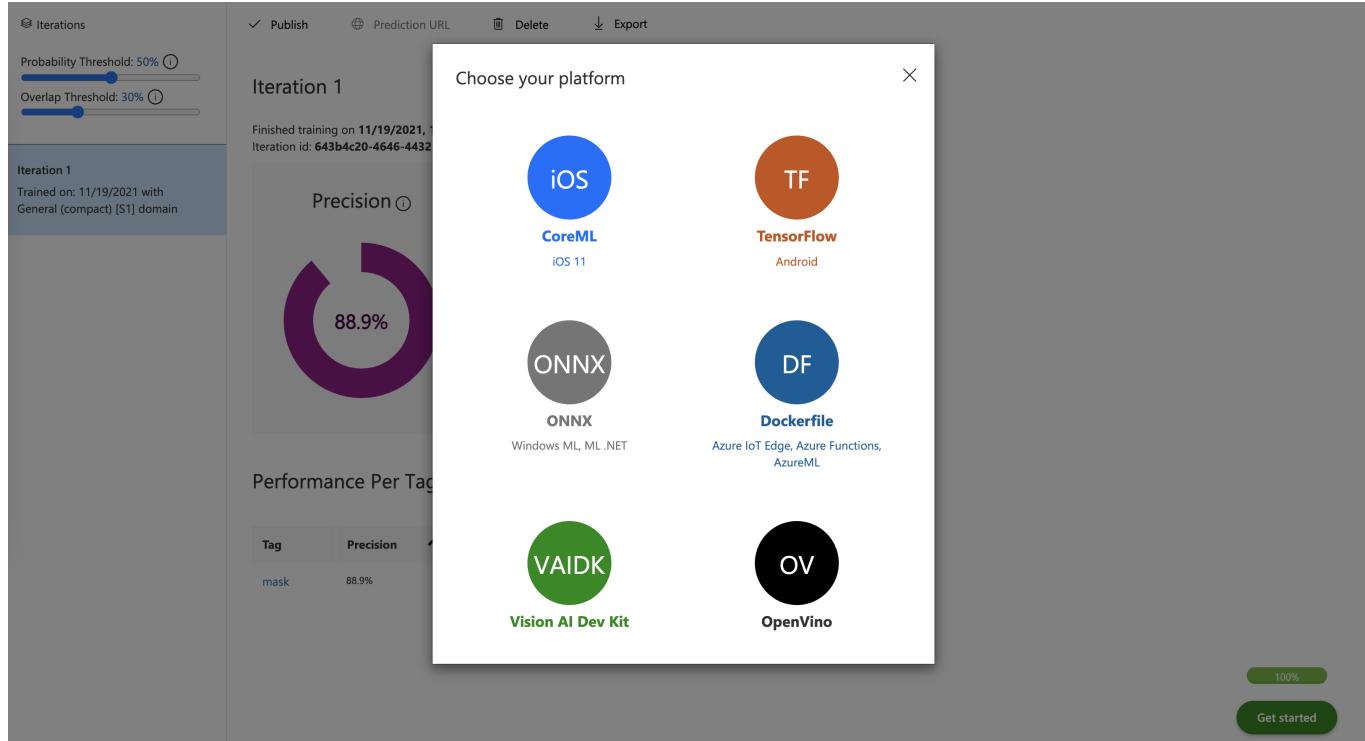


5. 实现口罩检测

1. 通过Custom Vision 训练口罩实体检测



通过Object Detection 完成相关训练，并导出TensorFlow 模型和ONNX模型



2. 在Jetson Nano 上部署模型

这里我建议通过远程端完成相关的操作

ONNX的Notebook

EXPLORER

DEV [SSH: 192.168.3.182]

- > CSI-Camera-master
- > Face-Mask-Detector-main
- > IoTHOL
- > __pycache__
- 03.DeployToJetsonNanoDocker
- > app
- Dockerfile
- LICENSE
- README.txt
- > img
- 01.SearchMaskImage.ipynb
- 02.OnnxModel.ipynb
- demo.jpg
- labels.txt
- model.onnx
- object_detection.py
- > maskdemo
- FaceMaskDetection-main.zip

Dockerfile 02.OnnxModel.ipynb face_detect.py simple_camera.py camera.py demo_mask.py

IoTHOL > 02.OnnxModel.ipynb > ! pip3 install onnx

Code + Markdown | Run All Clear Outputs of All Cells ⚡ Restart ⚡ Interrupt | Variables Outline ...

pydev (Python 3.8.10)

```
[13] height, width, channels = imcv.shape
print(height)
print(width)

... 360
640

[14] length = len(predictions)
for i in range(length):
    left1 = predictions[i]['boundingBox']['left']
    top1 = predictions[i]['boundingBox']['top']
    width1 = predictions[i]['boundingBox']['width']
    height1 = predictions[i]['boundingBox']['height']
    pre = predictions[i]['probability']

    if(pre > 0.5 ):
        left= (int)(left1 * width)
        top = (int)(top1 * height)
        w = (int)(width1 * width + left)
        h = (int)(height1 * height + top)
        cv2.rectangle(imcv,(left,top),(w,h),(100,0,0),3 )

[15] imgplot = plt.imshow(imcv)
```

Python Python

TF直接部署应用

Tensorflow

python3 check_mask1.py

```
GST_ARGUS: Running with following settings:
  Camera index = 0
  Camera mode = 5
  Output Stream W = 1280 H = 720
  seconds to Run = 0
  Frame Rate = 120.000005
GST_ARGUS: Setup Complete, Starting captures for 0 seconds
GST_ARGUS: Starting repeat capture requests.
CONSUMER: Producer has connected; continuing.
[ WARN:0] global /home/nvidia/host/build_opencv/nv_opencv/modules/videoio/src/cap_gstreamer.cpp (933) open OpenCV | GStreamer warning: Cannot query video position: status=0, value=-1, duration=-1
2022-01-08 12:50:55.360429: I tensorflow/compiler/mlir/mlir_graph_optimization_pass.cc:176] None of the MLIR Optimization Passes are enabled (registered 2)
2022-01-08 12:50:55.380158: I tensorflow/core/platform/profile_utils/cpu_utils.cc:114] CPU Frequency: 1920000 Hz
2022-01-08 12:51:02.105463: I tensorflow/stream_executor/platform/default/dso_loader.cc:53] Successfully opened dynamic library libcudnn.so.8
2022-01-08 12:51:09.687776: I tensorflow/stream_executor/cuda/cuda_dnn.cc:380] Loaded cuDNN version 8201
2022-01-08 12:51:23.750037: I tensorflow/stream_executor/platform/default/dso_loader.cc:53] Successfully opened dynamic library libcublas.so.10
```

Linux - Tensorflow

with_mask : 1.000, FPS 3

