04. Custom Vision 的模型导出部署到 Jetson Nano 上

1. 关于Jetson Nano本地的Docker 安装

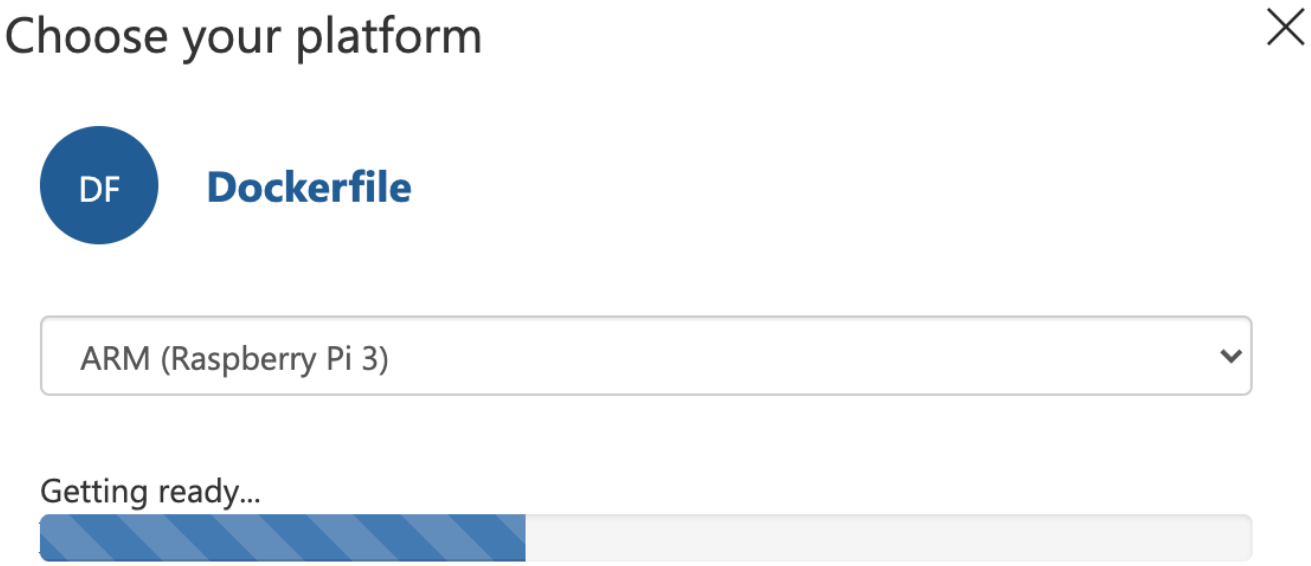
```
sudo apt-get update -y
sudo apt-get upgrade -y
sudo apt-get install curl python3-pip libffi-dev python-openssl libssl-dev
zlib1g-dev gcc g++ make -y
curl -sSL https://get.docker.com/ | sh
sudo pip3 install docker-compose
sudo docker-compose --version
```

安装成功后，运行 docker info ， 可以看到一下信息

```
(mldev) ➜  ~ docker info
Client:
 Context:    default
 Debug Mode: false

Server:
 Containers: 1
  Running: 0
  Paused: 0
  Stopped: 1
 Images: 10
 Server Version: 20.10.7
 Storage Driver: overlay2
  Backing Filesystem: extfs
  Supports d_type: true
  Native Overlay Diff: true
  userxattr: false
 Logging Driver: json-file
 Cgroup Driver: cgroupfs
 Cgroup Version: 1
```

2 .关于从Custom Vision 导出的模型



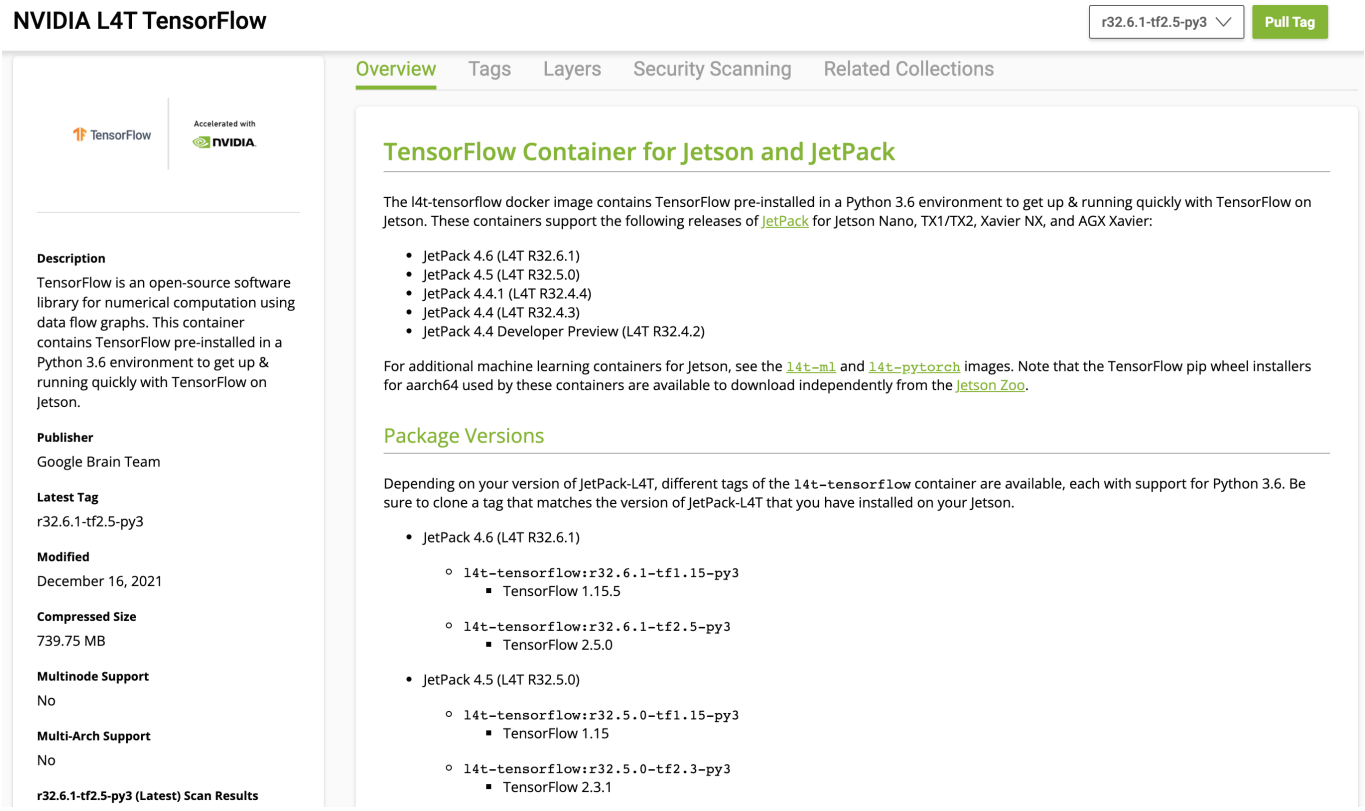
通过容器快出导出

但这里注意不能直接部署，因为这只是给到树莓派的容器

3 .关于Jetson Nano 里的TensorFlow 容器

l4t-tensorflow docker 镜像包含预安装在 Python 3.6 环境中的 TensorFlow，以便在 Jetson 上使用 TensorFlow 快速启动和运行。 这些容器支持以下版本的 JetPack for Jetson Nano、TX1/TX2、Xavier NX 和 AGX Xavier：

JetPack 4.6 (L4T R32.6.1) JetPack 4.5 (L4T R32.5.0) JetPack 4.4.1 (L4T R32.4.4) JetPack 4.4 (L4T R32.4.3) JetPack 4.4 开发者预览版 (L4T R32.4.2)



更多相关的知识 https://catalog.ngc.nvidia.com/orgs/nvidia/containers/l4t-tensorflow

```
FROM nvcr.io/nvidia/l4t-tensorflow:r32.5.0-tf2.3-py3

RUN apt-get update -y
RUN apt-get install python3-pip -y
RUN pip3 install -U pip -i https://pypi.tuna.tsinghua.edu.cn/simple


RUN DEBIAN_FRONTEND=noninteractive apt-get install -y python3-opencv

RUN pip3 install flask pillow   -i
https://pypi.tuna.tsinghua.edu.cn/simple

COPY app /app
# Expose the port
EXPOSE 80
# Set the working directory
WORKDIR /app
# Run the flask server for the endpoints
CMD python3 -u app.py
```

```
(mldev) ➜  ~ curl -X POST http://127.0.0.1/url -d '{ "url": "https://img1.baidu.com/it/u=3868911901,2977215387&fm=26&fmt=auto" }'
{"created":"2022-01-08T03:54:19.470289","id":"","iteration":"","predictions":[{"boundingBox":null,"probability":0.9999803304672241,"tagId":"","tagName":"bb8"},{"boundingBox":null,"probability":1.7770000340533443e-05,"tagId":"","tagName":"c3po"},{"boundingBox":null,"probability":1.8499999896448571e-06,"tagId":"","tagName":"r2d2"}],"project":""}
(mldev) ➜  ~
```