Getting Started with Docker

Initial Docker Steps

Start pulling the basic GNU/Linux Ubuntu image and then install the needed tools onto it:

```
docker pull ubuntu:22.04
```

Launch a basic Docker image:

```
docker run -it --privileged=true --net=host ubuntu:22.04
```

```
docker run -it --privileged=true --net=host -v /run/media/root-
mmcblk2p2:/mnt -e TARGET_DIR=/mnt ubuntu:22.04
```

Move the Docker data root directory to /dev/mmcblk2p2

Stop the Docker service

```
sudo systemctl stop docker
```

Moving existing Docker assets

```
sudo mv /var/lib/docker /run/media/root-mmcblk2p2/docker
```

Modify Docker configuration

```
sudo nano /etc/docker/daemon.json
```

Add or modify the following content:

```
{
"data-root": "/run/media/root-mmcblk2p2/docker"
}
```

Set directory permissions

```
sudo chown -R root:docker /run/media/root-mmcblk2p2/docker
```

To start the Container again, run the following commands:

```
docker start <my_container_id>
docker attach <my_container_id>
```

Extra Docker Packages

Install the following packages:

```
apt-get update
```

```
apt-get install vim git build-essential checkinstall cifs-utils nfs-common
software-properties-common strace wget unzip
```

Close the Docker container and get its id:

```
exit
```

i.MX Board Terminal

```
docker ps -a
```

Copy the clinfo from Host to Docker container:

```
docker cp <your_file> <my_container_id>:/home/
```

To start the Container again, run the following commands:

```
docker start <my_container_id>
docker attach <my_container_id>
```

Upgrade the GCC package:

```
apt-get update
```

Install the following packages:

```
apt update && sudo apt install -y build-essential cmake python3-dev
libboost-all-dev libopenblas-dev liblapack-dev libx11-dev xvfb && pip
install opencv-python dlib face_recognition numpy python-vlc
```

Contains all the necessary Python packages to install:

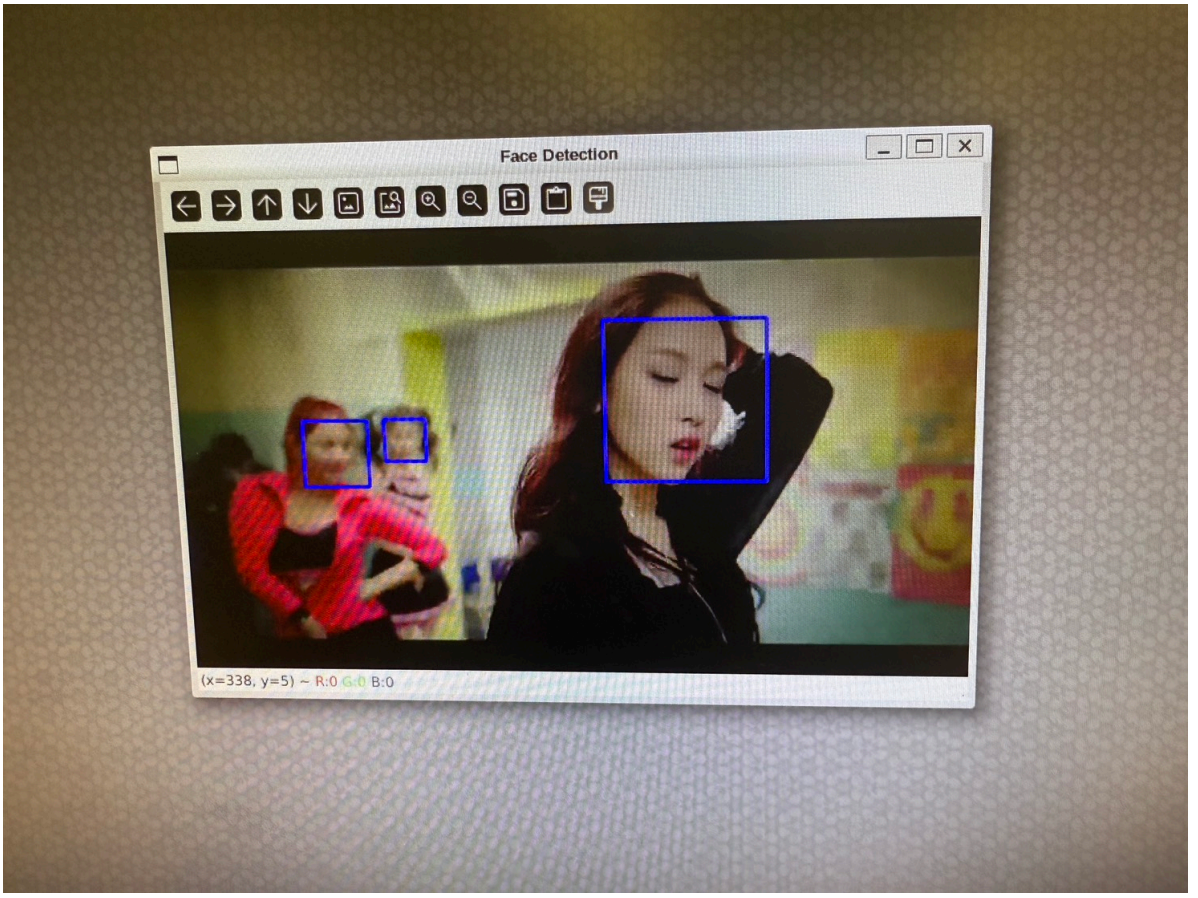
```
pip install opencv-python dlib face_recognition numpy python-vlc
```

Make sure the display environment variables are configured:

```
export DISPLAY=:0
```

Practice Profile

```
cd ~/video_test/
python3 ./play_video_ai.py
```



Packaging Docker software package

Execute the following command to build the image：

```
docker commit youthful_hoover my-container-image
```

Save Docker images as compressed archives

```
docker save -o my-docker-image.tar my-docker-image
```

Transfer compressed files to another device

USB or other storage device

```
cp my-docker-image.tar user@target-machine:/path/to/destination
```

Use network transmission

```
scp /run/media/root-mmcblk2p2/home/root/3720_Container.tar
hank@172.22.16.137:/home/hank/project/nxp/test
```

Load the image on the target device

```
docker load -i /path/to/destination/my-docker-image.tar
```

The image will appear in the list of Docker images on the target device:

```
docker images
```

Start the container

```
docker run -d --name my-container my-docker-image
```

Make sure the container is running properly

```
docker ps -a
```