宿主机一键安装docker(已经安装的可忽略)

```
curl -sSL https://get.daocloud.io/docker | sh
```

下载镜像

```
#登录阿里云镜像服务器
docker login registry.cn-hangzhou.aliyuncs.com
```

账号密码

```
username:guest_01@1725738280819274
password:uni123456
```

```
#拉取latest镜像
docker pull registry.cn-hangzhou.aliyuncs.com/uni_smart_drive/dev
```

安装nvidia docker plugin（可选）

```
distribution= **$(** . /etc/os-release;echo $ID$VERSION_ID**)**  **\** &&
curl -fsSL https://nvidia.github.io/libnvidia-container/gpgkey | sudo gpg -
-dearmor -o /usr/share/keyrings/nvidia-container-toolkit-keyring.gpg  **\**
&& curl -s -L https://nvidia.github.io/libnvidia-
container/$distribution/libnvidia-container.list | **\**
            sed 's#deb https://#deb [signed-by=/usr/share/keyrings/nvidia-
container-toolkit-keyring.gpg] https://#g' | **\**
            sudo tee /etc/apt/sources.list.d/nvidia-container-toolkit.list


sudo apt-get update && apt-get install -y nvidia-docker2

sudo systemctl restart docker
```

验证安装，是否能输出gpu信息

```
sudo docker run --rm --gpus all nvidia/cuda:11.0.3-base-ubuntu20.04 nvidia-
smi
```

建立容器

```
# --gpus all 需要安装上述nvidia docker plugin，非必须
docker run -it \
    --gpus all \
    --network host \
    --volume="/etc/group:/etc/group:ro" \
    --volume="/etc/passwd:/etc/passwd:ro" \
    --volume="/etc/shadow:/etc/shadow:ro" \
    --volume="/home/$USER:/home/$USER" \
    --name=dev \
    --privileged=true \
    registry.cn-hangzhou.aliyuncs.com/uni_smart_drive/dev:latest\
    bash
```

```
#再次进入容器
docker exec -it dev bash
```

运行程序

1. 在容器外部运行`roscore`
2. 在容器内部运行感知模块,命令行执行

   ```
   run_perception
   ```

3. ...

可视化调试：在容器外部运行rviz

ps. 宿主机的ros需要安装`ros-noetic-jsk-recognition-msgs` 和 `ros-melodic-jsk-rviz-plugins` 来可视化感知结果

```
sudo apt-get install ros-melodic-jsk-recognition-msgs & sudo apt-get
install ros-melodic-jsk-rviz-plugins
```