



# Chapter One: NEOR in Farm

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## Step 1: Install dependence packages

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```
# Open a Terminal && download codes
git clone https://github.com/COONEO/neor_farm.git
cd neor_farm/neor_ws/

#install ros dependence packages
rosdep install --from-paths src --ignore-src --rosdistro=melodic -y
```

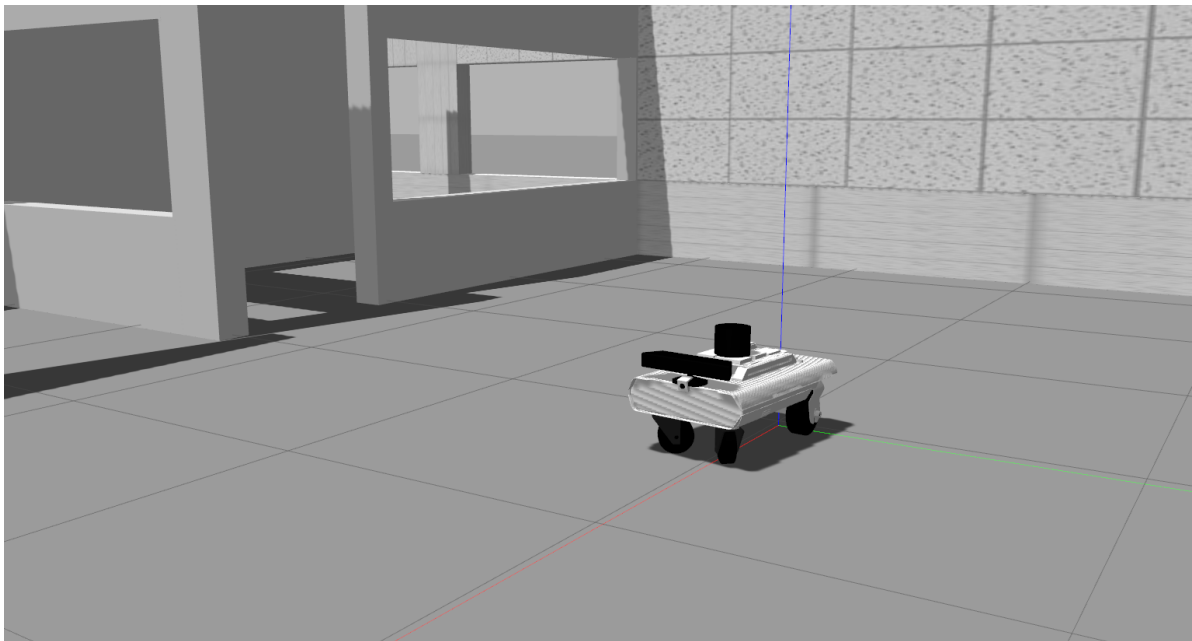
change crop\_follow\_object.py file's permissions,like this:s

allow this file as a execute file.



## Step 2: Visual NEOR URDF in Gazebo

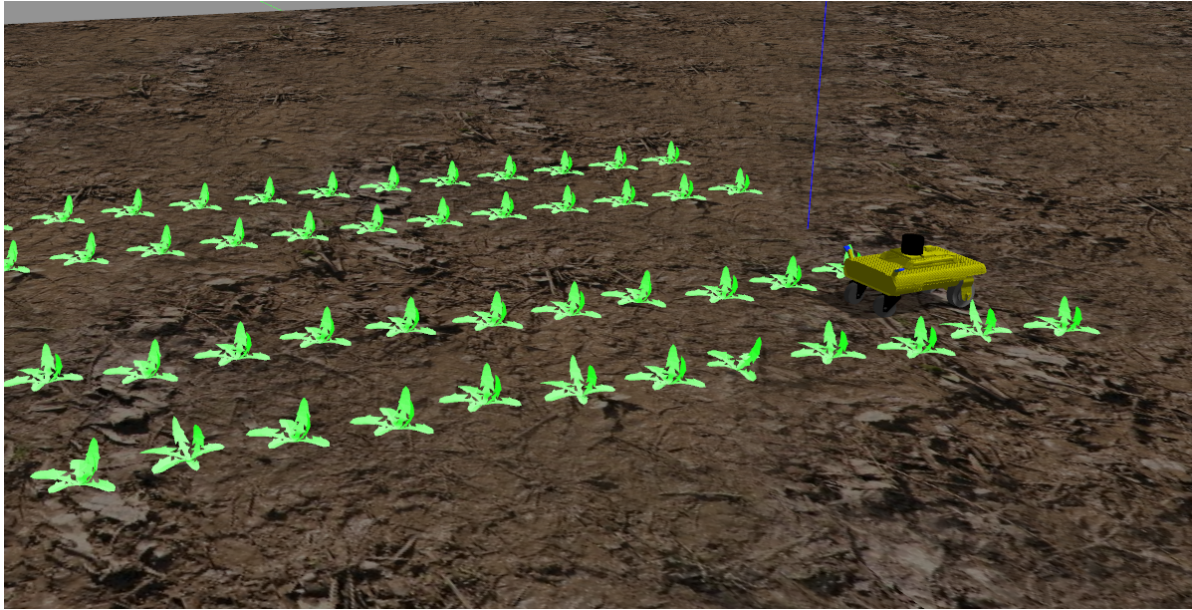
```
# open a Terminal  
cd ~/neor_farm/neor_ws/  
catkin_make  
source devel/setup.bash  
roslaunch neor neor_gazebo_sensors.launch
```



## Step 3: Visual NEOR in Crop Gazebo World

```
# open a Terminal
# copy models from neor_crop_follow/gazebo_models files into .gazebo/models folder.
mkdir ~/.gazebo/models
cd ~/neor_farm/neor_ws/src/neor_crop_follow/gazebo_models
cp -r * ~/.gazebo/models/

# compile and launch node
cd ~/neor_farm/neor_ws/
catkin_make
source devel/setup.bash
roslaunch neor_crop_follow gazebo_farm_land.launch
```



Run camera image detect python node.

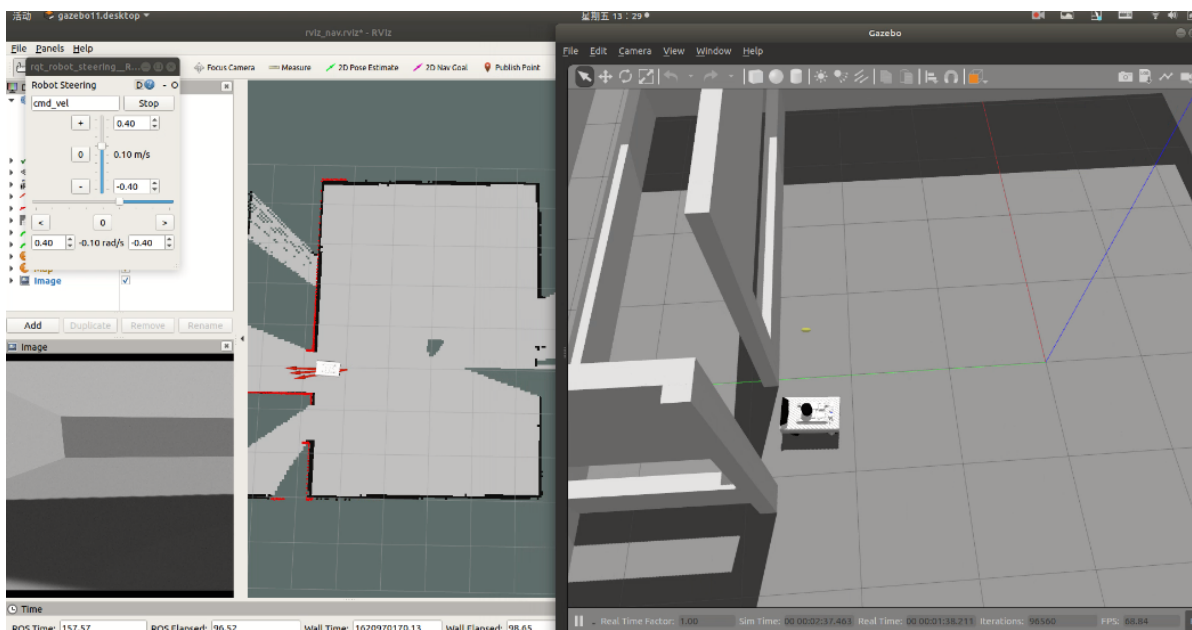
```
# open another Terminal
cd ~/neor_farm/neor_ws/
catkin_make
source devel/setup.bash
roslaunch neor_crop_follow crop_follow_object.py # remember enable execute permission
```



## Chapter Two : Gmapping and Navigation

### Step 1: NEOR ROS Gmappings

```
# open another Terminal
cd ~/neor_farm/neor_ws/
catkin_make
source devel/setup.bash
roslaunch neor_gmapping ekf_gmapping.launch
```



Save map file in : `~/neor_farm/neor_ws/src/neor_navigation/map/` folder.



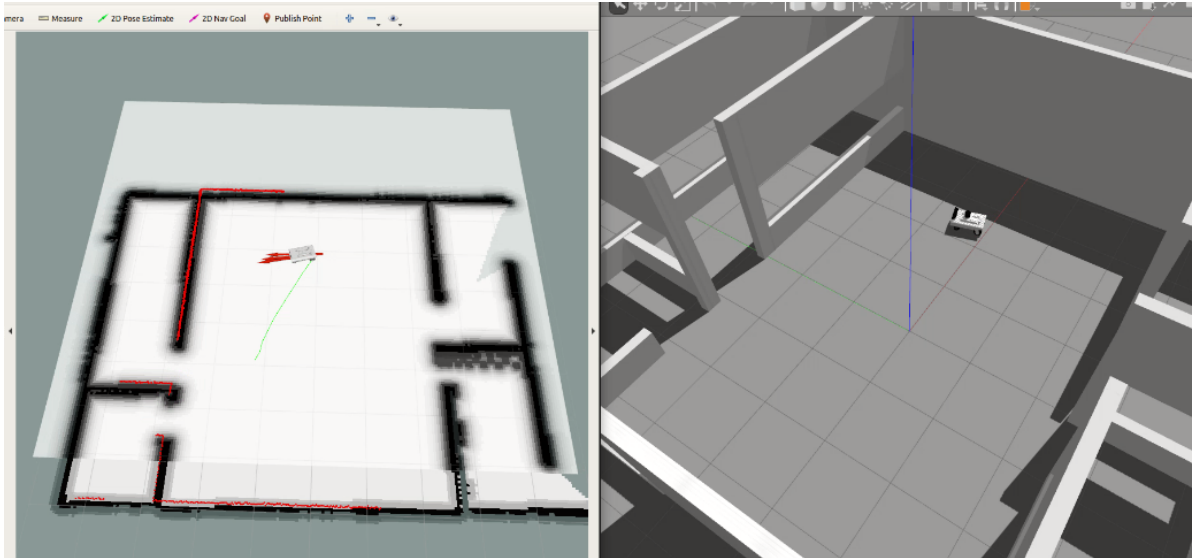
#open a new Terminal

```
cd ~/neor_farm/neor_ws/src/neor_navigation/map  
roslaunch map_server map_saver -f map
```

## Step 2:NEOR ROS Navigation

# open another Terminal

```
cd ~/neor_farm/neor_ws/  
catkin_make  
source devel/setup.bash  
roslaunch neor_navigation nav_test.launch
```



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