

These are the commands for installing the turtlebot3 packages and getting the machine learning stage running. Linux takes time to learn but using the ros wiki first tutorials is a way. If not legible, use the Google Chrome search engine.

**ROS**  
**Install Individual Packages:**  
 # sudo apt-get install ros-kinetic-slam-  
 -mapping  
**To Find Available Package:**  
 # apt-cache search ros-kinetic  
**To show Package Info:**  
 # apt-cache show python3-opencv  
**To view Package & dependencies:**  
 # apt-cache showpkg python3-matplotlib  
**To Kill all ROScore processes:**  
 # killall roscore  
 exmpl\_model6 add\_ynindex P.423  
 aca7dot\_model python3\_opencv  
 aca7dot2w\_pos\_control.launch python3

**Turtlebot**  
**Find topic with message:** P.182  
 # rostopic find turtlesim/Pose P.145  
**Search services with a specific service type:**  
 # rosservice find turtlesim/SetPen  
**Display service args:**  
 # rosservice args /turtle1/set\_pen  
**Create file CHANGELOG.rst:**  
 # catkin\_generate\_changelog  
**To update change log:**  
 # catkin\_prepare\_release  
**ROSdep: (Install additional packages)**  
 # rosdep [check] [install] [init]  
**roscatc displays info such as ros version of pkg:**  
 # roscatc [info] [vcs] [type] [url]

**ROS Melodic**  
**To find available packages:** P.136 P.91  
 # apt search ros-melodic P.78 P.115  
 P.43 P.143  
**Turtlebot3 with obstacle:**  
 # roslaunch turtlebot3\_gazebo turtlebot3\_stage-  
 \_1.launch  
**Turtlebot3 machine learning (16.04):**  
 # export TURTLEBOT3\_MODEL = burger  
 # roslaunch turtlebot3\_gazebo turtlebot3-  
 \_autoface.launch  
 # export AUTO\_IN\_CALIB = action  
 # export GAZEBO\_MODE = true  
 # roslaunch turtlebot3\_autoface\_camera  
 turtlebot3\_autoface\_introsic\_camera\_calibration  
 .launch

**turtlebot3 & tensorflow:**  
**to activate environment:**  
 # conda activate tensorflow  
**to deactivate environment:**  
 # conda deactivate  
**Launch Autoface:**  
 # roslaunch turtlebot3\_gazebo turtlebot3\_auto-  
 face  
**Start machine Learning:** ③  
 # roslaunch turtlebot3\_dqn turtlebot3\_dqn-  
 stage\_4.launch  
**Launch Graph:** ②  
 # roslaunch turtlebot3\_dqn result\_graph.launch  
 open\_manipulator\_with\_t63\_gazebo  
**Launch dqn stage:** ①  
 # roslaunch turtlebot3\_dqn turtlebot3\_dqn\_stage3.launch