

Module 5 - Turtlebot Platform

ME4140 - ROS Workshop

Mechanical Engineering

Tennessee Technological University

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- A Brief History
- Recent Models
- Turtlebot3 at TNTECH
- Tutorial 5 - Turtlebot3

A Brief History

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Recent Models

Original TurtleBot

(Discontinued)



TurtleBot 2 Family



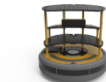
TurtleBot 2



TurtleBot 2i



TurtleBot 2e



TurtleBot Euclid

TurtleBot 3 Family

Burger



Waffle



Waffle Pi



Turtlebot3 at TNTECH

Waffle Pi

360° LiDAR for SLAM & Navigation

Scalable Structure

Single Board Computer
(Raspberry Pi)

Raspberry Pi Camera
for Perception

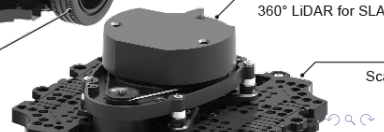
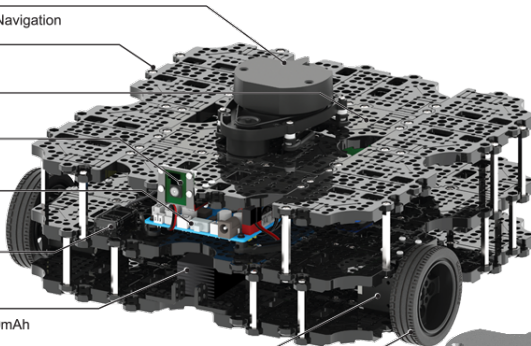
OpenCR
(32-bit ARM® Cortex®-M7)

Bluetooth Module
for Remote Controller

Li-Po Battery 11.1V 1,800mAh

DYNAMIXEL x 2 for Wheels

Sprocket Wheels for Tire and Caterpillar



Tutorial 5 - Turtlebot3

- ▶ **Overview:** Finally, you are going to install the Turtlebot3 simulator in ROS. This is a 3D robot simulator that uses Gazebo.
- ▶ **Assignment:** Complete the Tutorial 5 Turtlebot3 Simulator on ilearn. You must be able to drive your turtlebot3 around the virtual arena.
- ▶ **Deliverable:** Write a one to two paragraph summary of what you accomplished and what you struggled with the most. Include an image of the Gazebo window after you have driven the robot around with the keyboard.
- ▶ **Next Week:** After completion of Module 5, you are ready to learn about robot navigation. You will learn to use the simulated Turtlebot3 to make a map and navigate in the Gazebo simulator.