Robotics Club
IIT Guwahati

Documentation: Depth Image to Laser Scan

12th January, 2019

OVERVIEW

This documentation represents the steps, obstacles and the work progress on the Intel Realsense Camera data extraction and conversion of it's data into Laser scan which is necessary for SWAR (Simple Autonomous Wheeled Robot)

It takes input: image (sensor_msgs/Image) and camera_info (sensor_msgs/CameraInfo)
and gives the output as scan (sensor_msgs/LaserScan).

SPECIFICATIONS

1) Setup and Data extraction

a) Install the following ROS Package depthimage_to_laserscan by doing:
cd catkin_ws/src
git clone https://github.com/ros-perception/depthimage_to_laserscan.git
cd .. && catkin_make

b) Create a laserscan.launch file and write the following code:
<launch>
<node pkg="depthimage_to_laserscan" type="depthimage_to_laserscan"
name="depthimage_to_laserscan" > <param name="scan_height" value="3"/>
<param name="output_frame_id" value="base_link"/>
<remap from="image" to="camera/depth/image_rect_raw" />
</node>
</launch>

c) Now connect the Realsense and open a terminal:
   i) In the first terminal, roslaunch realsense2_camera rs_camera.launch
   ii) In second terminal, roslaunch laserscan.launch
   iii) In third terminal to check the output: roslaunch realsense2_camera rs_camera.launch

d) Also, if you have problem taking input check for roslist in terminal and check for:
   i) camera/depth/image_rect_raw (sometimes it can be camera/depth/image_raw) and
   ii) camera/depth/camera_info

   And make the changes accordingly.