The Perception Project

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Project Summary

In this project we must locate and identify various objects from RGBD camera data. These objects are in a cluttered environment and have various geometries.

CAMERA SET UP

- We'll learn about and use RGBD to create a 3D point-cloud i.e. a cloud of points.

FILTERING/BASIC SEGMENTING

- We'll do some camera calibrating, filtering out the noise, and segment i.e. breaking up the point-cloud data in objects using a RANSAC algorithm.

ADVANCED SEGMENTING

- We'll make the segmentation more advanced using clustering

OBJECT RECOGNITION

- And finally perform object recognition using prior-knowledge/feature intuition, and a trained classifier algorithm (support vector machine)

PRODUCT

- The end result will be the creating of messages with the locations of specific objects that will be sent to a .yaml file for the pick and place task.