

Forschungspraxis

3D object model reconstruction from RGB-D scenes

The robots should be able to discover their environments and learn new objects in order to be a part of daily human life. There are still challenges to detect or recognize objects in unstructured environments like a household environment. For robotic grasping and manipulation, knowing 3D models of the objects are beneficial, hence the robot needs to infer the 3D shape of an object upon observation. In this project, we will investigate methods that can infer or produce 3D models of novel objects by observing RGB-D scenes. We will analyze the methods to reconstruct 3D information with different arrangements of an RGB-D camera.

Prerequisites

- Basic knowledge of digital signal processing / computer vision
- Experience with ROS, C++, Python.
- Experience with Artificial Neural Network libraries or motivation to learn them
- Motivation to yield a successful work

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Advisors

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