Real-Time 3D Object Tracking and Pose Estimation of Textureless Objects

Real time 3D tracking of objects using one or more cameras is crucial to build a Digital Twin. In this project, you will improve an algorithm for 3D tracking and pose estimation, and use it to update a Digital Twin of a factory environment that is used in robotic manipulation tasks.

We will pay special attention to the tracking of textureless objects and the speed of the algorithm. We will also try to compare the results using one and more cameras.

Prerequisites

For this work, good knowledge of C++ is required.

Some knowledge of Python and ROS will be useful, but it is not required.

Contact

diego.prado@tum.de

Advisors

Diego Fernandez Prado