TUM

Forschungspraxis, Interdisciplinary Project, Bachelor's Thesis, Ingenieurspraxis

Hand-pose based robotic grasp demonstration via mobile devices

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Although there is intensive research in the field of robotics since decades, autonomous robotic grasping and manipulation still remain as challenging abilities under real-life conditions. Autonomous algorithms fail more in unstructured environments such as household environments, which limits the practical use of robots in daily human life. In unsructured environments, the perception gains importance and there can often be novel and unseen cases by which the autonomous algorithms tend to fail. By these cases there is need for human correction or demonstration to increase the task performance or teach new abilities to robots. For this aim, we will create a user interface which is intuitive to use by the user on a mobile device via hand poses. At the same time the interface should provide the necessary data to efficiently assist a robot in a daily home environment. The main application will be teleassistance for robotic grasping.

Prerequisites

- Basic knowledge of image processing / computer vision.
- Basic coding experience, especially with C#.
- Experience with Unity game engine.
- Basic experience with ROS.
- Motivation to yield a successful work.

Contact

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(Please provide your CV and transcript in your application)

Advisors

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