Special Issue

Vision Based Sensing and Machine Learning for Robotic Grasping and Manipulation

Message from the Guest Editor

The sense of touch is essential for humans to perform coordinated and efficient interactions within their environment. Without the sense of touch, it is very difficult to maintain stable grasping or manipulation. Robot interaction through object grasping and manipulation is one of the key areas with the potential to drive the industry for economic growth. Recent advancements in vision-based sensors and machine learning techniques have made impressive progress in many areas of computer vision and robotics applications. Robotics grasping and manipulation present many challenges that require novel approaches. Grasping is one of the most fundamental skills for manipulating objects, and one of the first skills robots need to master. Instead of relying on human assistance, a robot has to learn to grasp by interacting with dynamic objects in an unknown environment. Therefore, in order to reach their full potential as autonomous agents, robots must be capable of learning versatile manipulation skills for different objects and situations.

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