Object localization using stereo sensors for adept SCARA robot

In this paper we present a stereo vision system for segmentation of partially occluded objects and computation of object grasping point in bin picking environments. The stereo vision system was interfaced with an Adept SCARA Robot to perform bin picking operations. Most researches on bin picking involve combination of vision and force sensors, however in this research an attempt is made to develop a bin picking system using only vision sensors for bin pick and place operation. An algorithm to segment partially occluded objects is proposed. The proposed stereo vision system was found to be effective for partially occluded objects and in the absence of albedo effects. The results are validated through real time bin picking experiments on the Adept Robot.