

Scenario

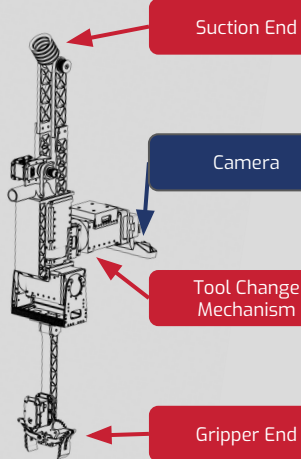
Real-world cluttered bin picking (Amazon Robotics Challenge)

Many different object classes.

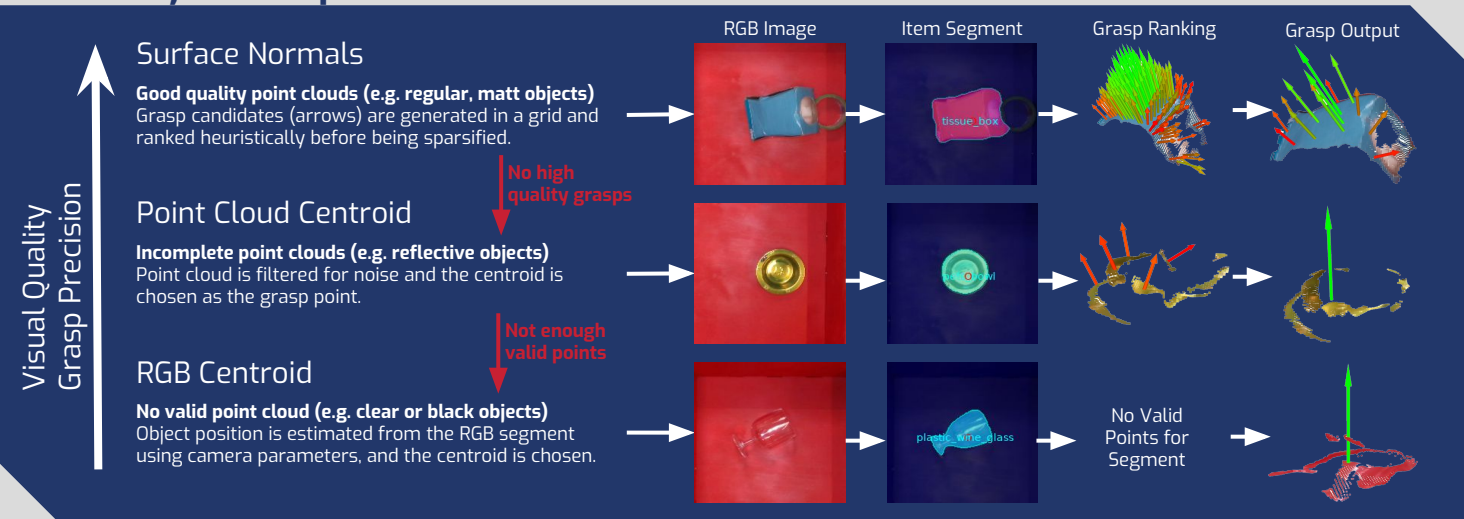
Heavy occlusions.

Perceptually difficult objects
(reflective, transparent, black...)

Visual information not always complete or reliable for calculating grasp poses.



Hierarchy of Grasp Detection



Custom End-Effector

Custom end-effector designed to complement the grasp detection system.

Using a parallel plate gripper and suction gripper to handle a wide variety of items (rigid, semi-rigid, hinged, deformable, porous).

Tool selection via a 180 degree tool change mechanism.

Example Bin

