Building a Grasping Testbed

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Object Modelling → Grasp Simulation → Grasp Sampling → Grasp Execution
                                            ↓                  ↓
                                      Simulation DB       Real Robot DB
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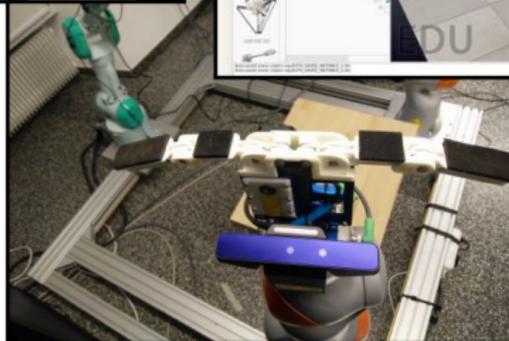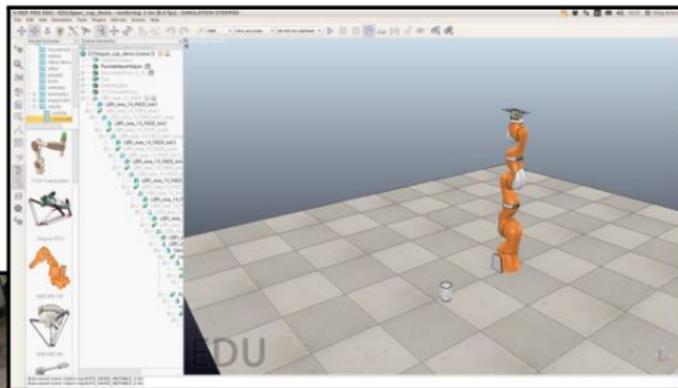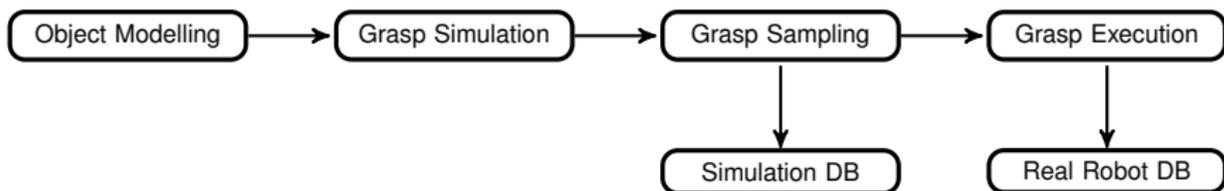
Object Modeling:

1. Get pointclouds of given object from different perspectives using both IIWAS
2. Merge all pointclouds into one frame and create object Mesh

Grasp Simulation:

1. Send Mesh to V-REP simulator using API
2. Write a function cost = evaluate_grasp(Mesh, JointConfiguration)

Grasp Sampling:

1. Sample configurations according to $p(\theta|\text{Mesh}) \propto \exp\left(-\frac{1}{\beta}\text{cost}_{\text{Mesh}}(\theta)\right)$