PICKNIK

ROBOT MODELING SERVICES

Assembly Modeling

- Setup Solidworks assembly files to have proper mechanical mates and joint limits
- Setup coordinate systems for DH parameterization
- Create Interface Control Documents for consistent representation of the robot kinematics

URDF Generation

- Convert CAD files to compliant URDF specification
- Verification of joint limits and appearance in Rviz
- Integrate inertial properties for simulation in Gazebo
- Integrate actuator and controller properties for ROS Control

Mesh Collision Optimization

- Defeature and reduce mesh complexity
- Reduce triangle count on meshes
- Create bounding convex decompositions of meshes
- Convert to coarse grain geometric primitives for highest speed optimizations

CAD Packages

We are currently compatible with the following CAD packages:

- Solidworks 2017 / 2018
- OnShape