

Robotic photogrammetric object acquisition

Setting:

Automated photogrammetric acquisition and robotics gained large attention in recent years.

Photogrammetric methods can reconstruct 3D objects as point clouds or meshes.

Goal is to program our robot to automatically take pictures around an object and identify optimized paths to acquire a “perfect” digital 3D representation.

Your Tasks:

- Get to know our new robot UR10e and its programming interface
- Develop a pathfinding algorithm that scans arbitrary objects within a predefined boundary
- Use photogrammetric methods to get a 3D representation of a model
- Create example models to verify the functionality of the developed codes

Project Characteristics

Modeling: ★★★★★☆
Mathematics: ★★★★★
Programming: ★★★★★
Science: ★★☆☆☆

