

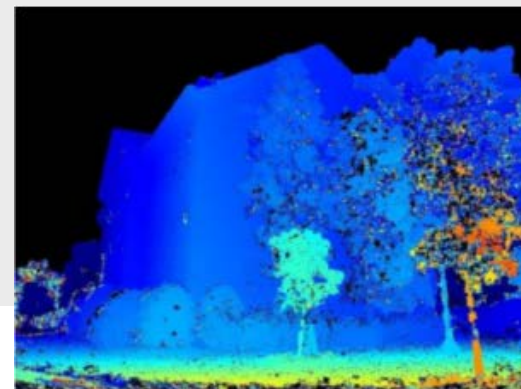
Depth Map and Normal Direction Fusion

Goal: Include surface normal direction likelihood estimates to volumetric depth map fusion

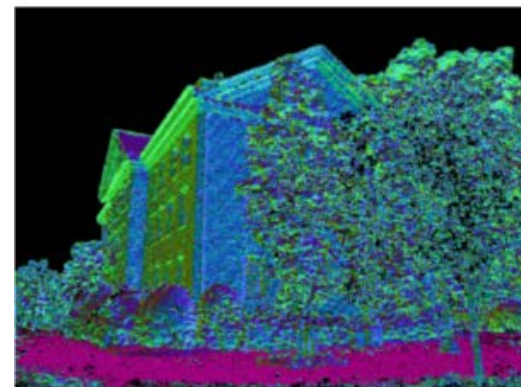
Description:

Volumetric depth map fusion takes a set of input depth maps and fuses them to a consistent 3D model. The formulation is posed as a segmentation of the voxel space into the free space (exterior of the object) and occupied space (interior of the object).

Traditionally the depth maps give an input about the surface position. The goal of this project is to include likelihoods of surface normal direction into the fusion. Code to produce the input data (depth maps, surface direction likelihoods) and a baseline fusion approach will be provided.



Depth Map



Surface Normals



Baseline Fusion

Requirements / Tools:

Required: C++, Linux

Recommended: Convex Optimization

Supervisor:

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