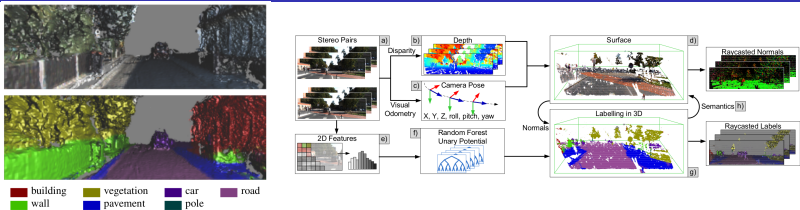


Incremental Dense Semantic Stereo Fusion for Large-Scale Semantic Scene Reconstruction

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- ▶ Dense, large-scale, outdoor semantic reconstruction of a scene
- ▶ Near real-time using GPUs (features not included)
- ▶ Hash-based technique for large-scale fusion
- ▶ More reliable visual odometry instead of ICP camera pose estimation
- ▶ 2D features and unaries based on random forest classifier for semantic segmentation and transferring them to 3D volume
- ▶ An online volumetric mean-field inference algorithm for densely-connected CRFs
- ▶ A semantic fusion approach to handle dynamic objects
- ▶ Output: Per-voxel probability distribution instead of a single label
- ▶ Evaluated on KITTI
- ▶ Semantic fusion improves segmentation results, especially for cars.
- ▶ Reconstruction improves upon initial depth estimation.
- ▶ Sharp boundaries on sequences captured using a head-mounted stereo camera