RGB-D Vision

List of Publications

[C1] L. Ma, C. Kerl, J. Stueckler and D. Cremers,
CPA-SLAM: Consistent Plane-Model Alignment for Direct RGB-D SLAM,
*Int. Conf. on Robotics and Automation*, May 2016.

[C1] M. Jaimez, M. Souiai, J. Gonzalez-Jimenez and D. Cremers,
A Primal-Dual Framework for Real-Time Dense RGB-D Scene Flow,
*Proc. of the IEEE Int. Conf. on Robotics and Automation (ICRA)*, 2015.

[C2] R. Maier, J. Stueckler and D. Cremers,
Super-Resolution Keyframe Fusion for 3D Modeling with High-Quality Textures,

[C3] M. Jaimez, M. Souiai, J. Stueckler, J. Gonzalez-Jimenez and D. Cremers,
Motion Cooperation: Smooth Piece-Wise Rigid Scene Flow from RGB-D Images,

[C4] C. Kerl, J. Stueckler and D. Cremers,
Dense Continuous-Time Tracking and Mapping with Rolling Shutter RGB-D Cameras,
*IEEE International Conference on Computer Vision (ICCV)*, Santiago, Chile, 2015.

Model-Based Tracking at 300Hz using Raw Time-of-Flight Observations,
*IEEE International Conference on Computer Vision (ICCV)*, Santiago, Chile, 2015.

[C1] F. Steinbruecker, J. Sturm and D. Cremers,
Volumetric 3D Mapping in Real-Time on a CPU,
*Int. Conf. on Robotics and Automation*, Hongkong, China, 2014.

[C2] J. Engel, T. Schöps and D. Cremers,
LSD-SLAM: Large-Scale Direct Monocular SLAM,
*European Conference on Computer Vision (ECCV)*, September 2014, Oral Presentation.

[C3] T. Schöps, J. Engel and D. Cremers,
Semi-Dense Visual Odometry for AR on a Smartphone,

[C4] R. Maier, J. Sturm and D. Cremers,
Submap-based Bundle Adjustment for 3D Reconstruction from RGB-D Data,
*German Conference on Pattern Recognition (GCPR)*, Münster, Germany, September 2014.

[C5] C. Kerl, M. Souiai, J. Sturm and D. Cremers,
Towards Illumination-invariant 3D Reconstruction using ToF RGB-D Cameras,
[C1] C. Kerl, J. Sturm and D. Cremers, 
Robust Odometry Estimation for RGB-D Cameras, 
*Int. Conf. on Robotics and Automation*, May 2013, Best Vision Paper Award - Finalist.

[C2] E. Bylow, J. Sturm, C. Kerl, F. Kahl and D. Cremers, 
Real-Time Camera Tracking and 3D Reconstruction Using Signed Distance Functions, 

[C3] E. Bylow, J. Sturm, C. Kerl, F. Kahl and D. Cremers, 
Direct Camera Pose Tracking and Mapping With Signed Distance Functions, 
*Demo Track of the RGB-D Workshop on Advanced Reasoning with Depth Cameras at the Robotics: Science and Systems Conference (RSS)*, June 2013.

[C4] C. Kerl, J. Sturm and D. Cremers, 
Dense Visual SLAM for RGB-D Cameras, 

[C5] T. Naseer, J. Sturm and D. Cremers, 
FollowMe: Person Following and Gesture Recognition with a Quadrocopter, 

[C6] M. Klodt, J. Sturm and D. Cremers, 
Scale-Aware Object Tracking with Convex Shape Constraints on RGB-D Images, 
*German Conference on Pattern Recognition (GCPR)*, Saarbrücken, Germany, September 2013.

[C7] J. Sturm, E. Bylow, F. Kahl and D. Cremers, 
Dense Tracking and Mapping with a Quadrocopter, 
*Unmanned Aerial Vehicle in Geomatics (UAV-g)*, Rostock, Germany, September 2013.

[C8] J. Sturm, E. Bylow, F. Kahl and D. Cremers, 
CopyMe3D: Scanning and Printing Persons in 3D, 
*German Conference on Pattern Recognition (GCPR)*, Saarbrücken, Germany, September 2013.

[C9] J. Engel, J. Sturm and D. Cremers, 
Semi-Dense Visual Odometry for a Monocular Camera, 
*IEEE International Conference on Computer Vision (ICCV)*, Sydney, Australia, December 2013.

[C10] F. Steinbruecker, C. Kerl, J. Sturm and D. Cremers, 
Large-Scale Multi-Resolution Surface Reconstruction from RGB-D Sequences, 
*IEEE International Conference on Computer Vision (ICCV)*, Sydney, Australia, 2013.

[M1] R. Maier, 
Out-of-Core Bundle Adjustment for 3D Workpiece Reconstruction, 
Technische Universitat Munchen, Germany, September 2013.
[C1] F. Endres, J. Hess, N. Engelhard, J. Sturm, D. Cremers and W. Burgard,
An Evaluation of the RGB-D SLAM System,
Int. Conf. on Robotics and Automation, St. Paul, MA, USA, May 2012.

[C2] L. Zhang, J. Sturm, D. Cremers and D. Lee,
Real-Time Human Motion Tracking using Multiple Depth Cameras,

[C3] J. Sturm, N. Engelhard, F. Endres, W. Burgard and D. Cremers,
A Benchmark for the Evaluation of RGB-D SLAM Systems,

[C4] J. Sturm, W. Burgard and D. Cremers,
Evaluating Egomotion and Structure-from-Motion Approaches Using the TUM RGB-D Benchmark,

[M1] C. Kerl,
Odometry from RGB-D Cameras for Autonomous Quadrocopters,
Technical University Munich, Germany, Nov. 2012.

[C1] N. Engelhard, F. Endres, J. Hess, J. Sturm and W. Burgard,
Real-time 3D visual SLAM with a hand-held camera,

Towards a benchmark for RGB-D SLAM evaluation,

[C3] F. Steinbruecker, J. Sturm and D. Cremers,
Real-Time Visual Odometry from Dense RGB-D Images,
Workshop on Live Dense Reconstruction with Moving Cameras at the Intl. Conf. on Computer Vision (ICCV), 2011.

[C1] J. Stühmer, S. Gumhold and D. Cremers,
Real-Time Dense Geometry from a Handheld Camera,
Pattern Recognition (Proc. DAGM), Darmstadt, Germany, 11-20, September 2010.

[C2] J. Stühmer, S. Gumhold and D. Cremers,
Parallel Generalized Thresholding Scheme for Live Dense Geometry from a Handheld Camera,
ECCV Workshop on Computer Vision on GPUs (CVGPU), Heraklion, Greece, September 2010.