Journal Articles

[J1] Haefner, B., Peng, S., Verma, A., Queau, Y., Cremers and D.,
Photometric Depth Super-Resolution,

Conference and Workshop Papers

[C1] E. Bylow, R. Maier, F. Kahl and C. Olsson,
Combining Depth Fusion and Photometric Stereo for Fine-Detailed 3D Models,
Scandinavian Conference on Image Analysis (SCIA), Norrköping, Sweden, June 2019,
Oral Presentation, received the SCIA 2019 Honourable Mention award.

[C2] Haefner, B., Queau, Y., Möllenhoff, T., Cremers and D.,
Fight ill-posedness with ill-posedness: Single-shot variational depth super-resolution from shading,
IEEE Conference on Computer Vision and Pattern Recognition (CVPR), 2018,
Spotlight Presentation.

[C3] M. Jaimez, T. J. Cashman, A. Fitzgibbon, J. Gonzalez-Jimenez and D. Cremers,
An Efficient Background Term for 3D Reconstruction and Tracking with Smooth Subdivision Surface Models,
2017.

[C4] M. Dzitsiuk, J. Sturm, R. Maier, L. Ma and D. Cremers,
De-noising, Stabilizing and Completing 3D Reconstructions On-the-go using Plane Priors,

[C5] R. Maier, R. Schaller and D. Cremers,
Efficient Online Surface Correction for Real-time Large-Scale 3D Reconstruction,
British Machine Vision Conference (BMVC), London, United Kingdom, September 2017.

[C6] R. Maier, K. Kim, D. Cremers, J. Kautz and M. Niessner,
Intrinsic3D: High-Quality 3D Reconstruction by Joint Appearance and Geometry Optimization with Spatially-Varying Lighting,
International Conference on Computer Vision (ICCV), Venice, Italy, October 2017.

[C7] Peng, S., Haefner, B., Queau, Y., Cremers and D.,
Depth Super-Resolution Meets Uncalibrated Photometric Stereo,
International Conference on Computer Vision Workshops (ICCVW), 2017,
Oral Presentation at ICCV Workshop on Color and Photometry in Computer Vision.

[C8] 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.

[C9] R. Maier, J. Stueckler and D. Cremers,
Super-Resolution Keyframe Fusion for 3D Modeling with High-Quality Textures,
International Conference on 3D Vision (3DV), 2015.
[C10] C. Kerl, J. Stueckler and D. Cremers,  
Dense Continuous-Time Tracking and Mapping with Rolling Shutter RGB-D Cameras,  
Santiago, Chile, 2015.

Model-Based Tracking at 300Hz using Raw Time-of-Flight Observations,  
Santiago, Chile, 2015.

[C12] F. Steinbruecker, J. Sturm and D. Cremers,  
Volumetric 3D Mapping in Real-Time on a CPU,  
Hongkong, China, 2014.

[C13] J. Engel, T. Schöps and D. Cremers,  
LSD-SLAM: Large-Scale Direct Monocular SLAM,  
September 2014, Oral Presentation.

[C14] T. Schöps, J. Engel and D. Cremers,  
Semi-Dense Visual Odometry for AR on a Smartphone,  
September 2014, Best Short Paper Award.

[C15] 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, Oral Presentation.

[C16] C. Kerl, M. Souiai, J. Sturm and D. Cremers,  
Towards Illumination-invariant 3D Reconstruction using ToF RGB-D Cameras,  
International Conference on 3D Vision (3DV), 2014.

[C17] C. Kerl, J. Sturm and D. Cremers,  
Robust Odometry Estimation for RGB-D Cameras,  
May 2013, Best Vision Paper Award - Finalist.

[C18] E. Bylow, J. Sturm, C. Kerl, F. Kahl and D. Cremers,  
Real-Time Camera Tracking and 3D Reconstruction Using Signed Distance Functions,  

[C19] 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.

[C20] C. Kerl, J. Sturm and D. Cremers,  
Dense Visual SLAM for RGB-D Cameras,  

[C21] T. Naseer, J. Sturm and D. Cremers,  
FollowMe: Person Following and Gesture Recognition with a Quadrocopter,  
[C22] 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.

[C23] 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.

[C24] 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.

[C25] J. Engel, J. Sturm and D. Cremers,
Semi-Dense Visual Odometry for a Monocular Camera,
Sydney, Australia, December 2013.

[C26] F. Steinbruecker, C. Kerl, J. Sturm and D. Cremers,
Large-Scale Multi-Resolution Surface Reconstruction from RGB-D Sequences,
Sydney, Australia, 2013.

[C27] F. Endres, J. Hess, N. Engelhard, J. Sturm, D. Cremers and W. Burgard,
An Evaluation of the RGB-D SLAM System,

[C28] L. Zhang, J. Sturm, D. Cremers and D. Lee,
Real-Time Human Motion Tracking using Multiple Depth Cameras,

[C29] J. Sturm, N. Engelhard, F. Endres, W. Burgard and D. Cremers,
A Benchmark for the Evaluation of RGB-D SLAM Systems,

[C30] J. Sturm, W. Burgard and D. Cremers,
Evaluating Egomotion and Structure-from-Motion Approaches Using the TUM RGB-D Benchmark,

[C31] 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,
Keywords: Rgb-d

List of Publications

[C33] 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.

[C34] J. Stühmer, S. Gumhold and D. Cremers,
Real-Time Dense Geometry from a Handheld Camera,
Darmstadt, Germany, 11-20, September 2010.

[C35] 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.

MastersThesis

[M1] R. Maier,
Out-of-Core Bundle Adjustment for 3D Workpiece Reconstruction,
Technische Universität München, Germany, September 2013.

[M2] C. Kerl,
Odometry from RGB-D Cameras for Autonomous Quadrocopters,
Technical University Munich, Germany, Nov. 2012.