Keywords: Rgb-d

List of Publications

Journal Articles

[J1] Haefner, B., Peng, S., Verma, A., Queau, Y., Cremers and D.,
Photometric Depth Super-Resolution,
Submitted to IEEE Transactions on Pattern Analysis and Machine Intelligence (TPAMI)

Conference and Workshop Papers

[C1] V. Estellers, F. Schmidt and D. Cremers,
Robust Fitting of Subdivision Surfaces for Smooth Shape Analysis,
Proc. of the Int. Conference on 3D Vision (3DV), September 2018, Received the Best Paper Award at 3DV 2018.

[C2] Haefner, B., Queau, Y., Möllenhoff, T., Cremers and D.,
Fight ill-posedness with ill-posedness: Single-shot variational depth super-resolution from shading,

[C3] M. Jaimez, C. Kerl, J. Gonzalez-Jimenez and D. Cremers,
Fast Odometry and Scene Flow from RGB-D Cameras based on Geometric Clustering,
Proc. of the IEEE Int. Conf. on Robotics and Automation (ICRA), 2017.

[C4] 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.

[C5] Dzitsiuk, M., Sturm, J., Maier, R., Ma, L., Cremers and D.,
De-noising, Stabilizing and Completing 3D Reconstructions On-the-go using Plane Priors,

[C6] Maier, R., Schaller, R., Cremers and D.,
Efficient Online Surface Correction for Real-time Large-Scale 3D Reconstruction,
British Machine Vision Conference (BMVC), London, United Kingdom, September 2017.

[C7] Golyanik, V., Kim, K., Maier, R., Niesner, M., Stricker, D., Kautz and J.,
Multiframe Scene Flow with Piecewise Rigid Motion,
International Conference on 3D Vision (3DV), Qingdao, China, October 2017.

[C8] Maier, R., Kim, K., Cremers, D., Kautz and J.,
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.

[C9] 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.
[C10] L. Ma, C. Kerl, J. Stueckler and D. Cremers,
CPA-SLAM: Consistent Plane-Model Alignment for Direct RGB-D SLAM,
May 2016.

[C11] 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.

[C12] 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.

[C13] M. Jaimez, M. Souiai, J. Stueckler, J. Gonzalez-Jimenez and D. Cremers,
Motion Cooperation: Smooth Piece-Wise Rigid Scene Flow from RGB-D Images,

[C14] 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.

[C16] F. Steinbruecker, J. Sturm and D. Cremers,
Volumetric 3D Mapping in Real-Time on a CPU,
Hongkong, China, 2014.

[C17] J. Engel, T. Schöps and D. Cremers,
LSD-SLAM: Large-Scale Direct Monocular SLAM,
September 2014, Oral Presentation.

[C18] T. Schöps, J. Engel and D. Cremers,
Semi-Dense Visual Odometry for AR on a Smartphone,
September 2014, Best Short Paper Award.

[C19] 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.

[C20] 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.

[C21] C. Kerl, J. Sturm and D. Cremers,
Robust Odometry Estimation for RGB-D Cameras,
May 2013, Best Vision Paper Award - Finalist.
[C22] E. Bylow, J. Sturm, C. Kerl, F. Kahl and D. Cremers,  
Real-Time Camera Tracking and 3D Reconstruction Using Signed Distance Functions,  

[C23] 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.

[C24] C. Kerl, J. Sturm and D. Cremers,  
Dense Visual SLAM for RGB-D Cameras,  

[C25] T. Naseer, J. Sturm and D. Cremers,  
FollowMe: Person Following and Gesture Recognition with a Quadrocopter,  

[C26] 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.

[C27] 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.

[C28] 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.

[C29] J. Engel, J. Sturm and D. Cremers,  
Semi-Dense Visual Odometry for a Monocular Camera,  
Sydney, Australia, December 2013.

[C30] F. Steinbruecker, C. Kerl, J. Sturm and D. Cremers,  
Large-Scale Multi-Resolution Surface Reconstruction from RGB-D Sequences,  
Sydney, Australia, 2013.

[C31] F. Endres, J. Hess, N. Engelhard, J. Sturm, D. Cremers and W. Burgard,  
An Evaluation of the RGB-D SLAM System,  

[C32] L. Zhang, J. Sturm, D. Cremers and D. Lee,  
Real-Time Human Motion Tracking using Multiple Depth Cameras,  

[C33] J. Sturm, N. Engelhard, F. Endres, W. Burgard and D. Cremers,  
A Benchmark for the Evaluation of RGB-D SLAM Systems,  
Keywords: Rgb-d

List of Publications

[C34] J. Sturm, W. Burgard and D. Cremers,
Evaluating Egomotion and Structure-from-Motion Approaches Using the
TUM RGB-D Benchmark,
Proc. of the Workshop on Color-Depth Camera Fusion in Robotics at the IEEE/RJS Inter-

[C35] N. Engelhard, F. Endres, J. Hess, J. Sturm and W. Burgard,
Real-time 3D visual SLAM with a hand-held camera,
Proc. of the RGB-D Workshop on 3D Perception in Robotics at the European Robotics
Forum, Vasteras, Sweden, April 2011.

and R. Siegwart,
Towards a benchmark for RGB-D SLAM evaluation,
Proc. of the RGB-D Workshop on Advanced Reasoning with Depth Cameras at Robotics:
Science and Systems Conf. (RSS), Los Angeles, USA, June 2011.

[C37] 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 Com-

[C38] J. Stühmer, S. Gumhold and D. Cremers,
Real-Time Dense Geometry from a Handheld Camera,
Darmstadt, Germany, 11-20, September 2010.

[C39] 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.