Journal Articles

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

A Non-invasive 3D Body Scanner and Software Tool towards Analysis of Scoliosis, 

[J3] M. Jaimez and J. Gonzalez-Jimenez, 
Fast Visual Odometry for 3-D Range Sensors, 

Conference and Workshop Papers

[C1] L. Sang, B. Haefner, X. Zuo and D. Cremers, 
High-Quality RGB-D Reconstruction via Multi-View Uncalibrated Photometric Stereo and Gradient-SDF, 
*IEEE Winter Conference on Applications of Computer Vision (WACV)*, Hawaii, USA, January 2023.

[C2] L. Sang, B. Haefner and D. Cremers, 
Inferring Super-Resolution Depth from a Moving Light-Source Enhanced RGB-D Sensor: A Variational Approach, 
*IEEE Winter Conference on Applications of Computer Vision (WACV)*, Colorado, USA, March 2020, Spotlight Presentation.

[C3] 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.

[C4] B. Haefner, Y. Queau, T. Möllenhoff and D. Cremers, 
Fight ill-posedness with ill-posedness: Single-shot variational depth super-resolution from shading, 

[C5] 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.

[C6] 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, 
Keywords: Rgb-d

List of Publications


[C18] F. Steinbruecker, J. Sturm and D. Cremers,  
Volumetric 3D Mapping in Real-Time on a CPU,  

[C19] J. Engel, T. Schöps and D. Cremers,  
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*European Conference on Computer Vision (ECCV)*, September 2014, Oral Presentation.

[C20] T. Schöps, J. Engel and D. Cremers,  
Semi-Dense Visual Odometry for AR on a Smartphone,  

[C21] 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.

[C22] C. Kerl, M. Souiai, J. Sturm and D. Cremers,  
Towards Illumination-invariant 3D Reconstruction using ToF RGB-D Cameras,  

[C23] C. Kerl, J. Sturm and D. Cremers,  
Robust Odometry Estimation for RGB-D Cameras,  

[C24] E. Bylow, J. Sturm, C. Kerl, F. Kahl and D. Cremers,  
Real-Time Camera Tracking and 3D Reconstruction Using Signed Distance Functions,  

[C25] 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.

[C26] C. Kerl, J. Sturm and D. Cremers,  
Dense Visual SLAM for RGB-D Cameras,  

[C27] T. Naseer, J. Sturm and D. Cremers,  
FollowMe: Person Following and Gesture Recognition with a Quadrocopter,  

[C28] M. Klodt, J. Sturm and D. Cremers,  
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*German Conference on Pattern Recognition (GCPR)*, Saarbrücken, Germany, September 2013.

[C29] 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.
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[C30] J. Sturm, E. Bylow, F. Kahl and D. Cremers,
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*German Conference on Pattern Recognition (GCPR)*, Saarbrücken, Germany, September 2013.

[C31] J. Engel, J. Sturm and D. Cremers,
Semi-Dense Visual Odometry for a Monocular Camera,
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[C32] F. Steinbruecker, C. Kerl, J. Sturm and D. Cremers,
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*IEEE International Conference on Computer Vision (ICCV)*, Sydney, Australia, 2013.

[C33] F. Endres, J. Hess, N. Engelhard, J. Sturm, D. Cremers and W. Burgard,
An Evaluation of the RGB-D SLAM System,

[C34] L. Zhang, J. Sturm, D. Cremers and D. Lee,
Real-Time Human Motion Tracking using Multiple Depth Cameras,

[C35] J. Sturm, N. Engelhard, F. Endres, W. Burgard and D. Cremers,
A Benchmark for the Evaluation of RGB-D SLAM Systems,

[C36] J. Sturm, W. Burgard and D. Cremers,
Evaluating Egomotion and Structure-from-Motion Approaches Using the TUM RGB-D Benchmark,

[C37] N. Engelhard, F. Endres, J. Hess, J. Sturm and W. Burgard,
Real-time 3D visual SLAM with a hand-held camera,

[C38] J. Sturm, S. Magnenat, N. Engelhard, F. Pomerleau, F. Colas, W. Burgard, D. Cremers and R. Siegwart,
Towards a benchmark for RGB-D SLAM evaluation,

[C39] 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.

[C40] 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.
Keywords: Rgb-d

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[C41] 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.