List of Publications

[J1] J. Engel, J. Sturm and D. Cremers,
Scale-Aware Navigation of a Low-Cost Quadrocopter with a Monocular Camera,

[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] H. Alvarez, L.M. Paz, J. Sturm and D. Cremers,
Collision Avoidance for Quadrotors with a Monocular Camera,

[C3] 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.

[C4] O. Dunkley, J. Engel, J. Sturm and D. Cremers,
Visual-Inertial Navigation for a Camera-Equipped 25g Nano-Quadrotor,

[C5] D. Bender, M. Schikora, J. Sturm and D. Cremers,
INS-Camera Calibration without Ground Control Points,
9th IEEE ISIF Workshop on Sensor Data Fusion: Trends, Solutions, Applications (SDF),
2014.

[C6] 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.

[J1] F. Endres, J. Hess, J. Sturm, D. Cremers and W. Burgard,
3D Mapping with an RGB-D Camera,

[J2] Liu, Z., Beetz, M., Cremers, D., Gall, J., Li, W., Pangercic, D., Sturm, J., Tai and Y.-W.,
Introduction to the special issue on visual understanding and applications with RGB-D cameras,

[B1] J. Sturm,
Approaches to Probabilistic Model Learning for Mobile Manipulation Robots,
Springer 2013.
[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] J. Sturm and W. Burgard,
Learning Probabilistic Models for Mobile Manipulation Robots,
*Proc. of the International Joint Conference on Artificial Intelligence (IJCAI)*, Track on Best papers in Sister Conferences, 2013.

[C5] C. Kerl, J. Sturm and D. Cremers,
Dense Visual SLAM for RGB-D Cameras,

[C6] T. Naseer, J. Sturm and D. Cremers,
FollowMe: Person Following and Gesture Recognition with a Quadrocopter,

[C7] 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.

[C8] 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.

[C9] D. Bender, M. Schikora, J. Sturm and D. Cremers,
Graph-based bundle adjustment for INS-camera calibration,
*Unmanned Aerial Vehicle in Geomatics (UAV-g)*, Rostock, Germany, September 2013, Best research paper award.

[C10] 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.

[C11] 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.
[C12] 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.

[C13] T. Naseer, J. Sturm and D. Cremers, 
Interactive Person Following and Gesture Recognition with a Flying Robot, 
Proc. of the Assistance and Service Robotics Workshop (ASROB) at the IEEE. Int. Conf. on Intelligent Robots and Systems (IROS), Nov. 2013.

[BC1] Sturm, J., Plagemann, C., Burgard and W., 
Body Schema Learning, 

[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] T. Ruehr, J. Sturm, D. Pangercic, M. Beetz and D. Cremers, 
A Generalized Framework for Opening Doors and Drawers in Kitchen Environments, 
Int. Conf. on Robotics and Automation, St. Paul, MA, USA, May 2012.

[C3] L. Zhang, J. Sturm, D. Cremers and D. Lee, 
Real-Time Human Motion Tracking using Multiple Depth Cameras, 

[C4] J. Engel, J. Sturm and D. Cremers, 
Camera-Based Navigation of a Low-Cost Quadrocopter, 

[C5] J. Sturm, N. Engelhard, F. Endres, W. Burgard and D. Cremers, 
A Benchmark for the Evaluation of RGB-D SLAM Systems, 

[C6] J. Engel, J. Sturm and D. Cremers, 
Accurate Figure Flying with a Quadrocopter Using Onboard Visual and Inertial Sensing, 

[C7] J. Sturm, W. Burgard and D. Cremers, 
Evaluating Egomotion and Structure-from-Motion Approaches Using the TUM RGB-D Benchmark, 
[J1] S. Chitta, J. Sturm, M. Piccoli and W. Burgard,  
**Tactile Sensing for Mobile Manipulation**,  
*IEEE Transactions on Robotics (T-RO)*, 2011.

[J2] J. Sturm, C. Stachniss and W. Burgard,  
**A Probabilistic Framework for Learning Kinematic Models of Articulated Objects**,  
*Journal on Artificial Intelligence Research (JAIR)*, 41: 477-626, August 2011.

[C1] J. Hess, J. Sturm and W. Burgard,  
**Learning the State Transition Model to Efficiently Clean Surfaces with Mobile Manipulation Robots**,  
*Proc. of the Workshop on Manipulation under Uncertainty at the IEEE Int. Conf. on Robotics and Automation (ICRA)*, Shanghai, China, May 2011.

[C2] 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**,  

[C4] 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.

**Mobile Manipulation of Kitchen Containers**,  
*Proc. of the IROS’11 Workshop on Results, Challenges and Lessons Learned in Advancing Robots with a Common Platform*, San Francisco, CA, USA, 2011.

[PhD1] J. Sturm,  
**Approaches to Probabilistic Model Learning for Mobile Manipulation Robots**,  
University of Freiburg, Germany, May 2011, Received the Artificial Intelligence Dissertation Award 2011 (ECCAI) and the Wolfgang-Genter-Award 2011 (University of Freiburg); Finalist at the Georges-Giralt-Award 2012 (EURON); Selected for the Best Paper Track at IJCAI 2013.

[C1] J. Sturm, K. Konolige, C. Stachniss and W. Burgard,  
**3D Pose Estimation, Tracking and Model Learning of Articulated Objects from Dense Depth Video using Projected Texture Stereo**,  
[C2] J. Sturm, K. Konolige, C. Stachniss and W. Burgard,
Vision-based Detection for Learning Articulation Models of Cabinet Doors and Drawers in Household Environments,

[C3] S. Chitta, M. Piccoli and J. Sturm,
Tactile Object Class and Internal State Recognition for Mobile Manipulation,

Operating Articulated Objects Based on Experience,

[J1] J. Sturm, C. Plagemann and W. Burgard,
Body schema learning for robotic manipulators from visual self-perception,

[J2] J. Sturm, and A. Visser,
An appearance-based visual compass for mobile robots,

[C1] C. Eppner, J. Sturm, M. Bennewitz, C. Stachniss and W. Burgard,
Imitation Learning with Generalized Task Descriptions,
*Int. Conf. on Robotics and Automation*, Kobe, Japan, May 2009.

[C2] H. Schulz, L. Ott, J. Sturm and W. Burgard,
Learning Kinematics from Direct Self-Observation Using Nearest-Neighbor Methods,
*Proc. of the German Workshop on Robotics*, June 2009.

Towards Understanding Articulated Objects,

Learning Kinematic Models for Articulated Objects,
*Proc. of the International Joint Conference on Artificial Intelligence (IJCAI)*, July 2009.

[C5] D. Meyer-Delius, J. Sturm and W. Burgard,
Regression-Based Online Situation Recognition for Vehicular Traffic Scenarios,

[C6] A. Schneider, J. Sturm, C. Stachniss, M. Reisert, H. Burkhardt and W. Burgard,
Object Identification with Tactile Sensors Using Bag-of-Features,
[C1] J. Sturm, C. Plagemann and W. Burgard,
Unsupervised Body Scheme Learning through Self-Perception,

[C2] J. Sturm, C. Plagemann and W. Burgard,
Adaptive Body Scheme Models for Robust Robotic Manipulation,

[C3] J. Sturm, C. Plagemann and W. Burgard,
Body Scheme Learning and Life-Long Adaptation for Robotic Manipulation,

[C1] D. A. van Soest, M. de Greef, J. Sturm and A. Visser,
Autonomous Color Learning in an Artificial Environment,

[C2] J. Sturm, P. van Rossum and A. Visser,
Panoramic Localization in the 4-Legged League,

[C3] A. Visser, J. Sturm and F.C.A. Groen,
Robot companion localization at home and in the office,

Dutch AIBO Team at RoboCup 2006,

[M1] J. Sturm,
An appearance-based Visual Compass for Mobile Robots,
University of Amsterdam, the Netherlands, Dec. 2006.

[R1] A. Visser, J. Sturm, P. van Rossum, J. Westra and T. Bink,
Dutch Aibo Team: Technical Report RoboCup 2006,

[C1] N. Wijngaards, F. Dignum, P. Jonker, T. de Ridder, A. Visser, S. Leijnen, J. Sturm and S. van Weers,
Dutch AIBO Team at RoboCup 2005,

[R1] J. Sturm, A. Visser and N. Wijngaards,
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