Author: V. Usenko

List of Publications

Journal Articles

[J1] V. Usenko, N. Demmel, D. Schubert, J. Stueckler and D. Cremers,
Visual-Inertial Mapping with Non-Linear Factor Recovery,

Omnidirectional DSO: Direct Sparse Odometry with Fisheye Cameras,

Cloud-based collaborative 3D mapping in real-time with low-cost robots,

Conference and Workshop Papers

[C1] N Demmel, C Sommer, D Cremers and V Usenko,
Square Root Bundle Adjustment for Large-Scale Reconstruction,

[C2] C. Sommer, V. Usenko, D. Schubert, N. Demmel and D. Cremers,
Efficient Derivative Computation for Cumulative B-Splines on Lie Groups,

[C3] D. Schubert, N. Demmel, L. von Stumberg, V. Usenko and D. Cremers,
Rolling-Shutter Modelling for Visual-Inertial Odometry,

[C4] L. von Stumberg, V. Usenko and D. Cremers,
Direct Sparse Visual-Inertial Odometry using Dynamic Marginalization,
International Conference on Robotics and Automation (ICRA), May 2018.

The TUM VI Benchmark for Evaluating Visual-Inertial Odometry,

[C6] D. Schubert, N. Demmel, V. Usenko, J. Stueckler and D. Cremers,
Direct Sparse Odometry With Rolling Shutter,
European Conference on Computer Vision (ECCV), September 2018, Oral Presentation.

[C7] V. Usenko, N. Demmel and D. Cremers,
The Double Sphere Camera Model,

[C8] L. von Stumberg, V. Usenko, J. Engel, J. Stueckler and D. Cremers,
From Monocular SLAM to Autonomous Drone Exploration,
European Conference on Mobile Robots (ECMR), September 2017.
[C9] V. Usenko, L. von Stumberg, A. Pangercic and D. Cremers, 
Real-Time Trajectory Replanning for MAVs using Uniform B-splines and a 
3D Circular Buffer, 
*International Conference on Intelligent Robots and Systems (IROS)*, Vancouver, Canada, 
Sep 2017, **Best Paper Award - Finalist**.

[C10] V. Usenko, J. Engel, J. Stueckler and D. Cremers, 
Direct Visual-Inertial Odometry with Stereo Cameras, 

[C11] J. Engel, V. Usenko and D. Cremers, 
A Photometrically Calibrated Benchmark For Monocular Visual Odometry, 

[C12] V. Usenko, J. Engel, J. Stueckler and D. Cremers, 
Reconstructing Street-Scenes in Real-Time From a Driving Car, 

Furniture Classification using WWW CAD Models, 

**PhDThesis**

[PhD1] V. Usenko, 
Visual-Inertial Navigation for Autonomous Vehicles, 
Technische Universität München, München, 2019.