

Journal Articles

- [J1] P Wenzel, N Yang, R Wang, N Zeller and D Cremers,
4Seasons: Benchmarking Visual SLAM and Long-Term Localization for Autonomous Driving in Challenging Conditions,
arXiv preprint arXiv:2301.01147, 2022.
- [J2] N. Yang, R. Wang, X. Gao and D. Cremers,
Challenges in Monocular Visual Odometry: Photometric Calibration, Motion Bias and Rolling Shutter Effect,
In IEEE Robotics and Automation Letters (RA-L) 38; Int. Conference on Intelligent Robots and Systems (IROS), 3: 2878-2885, Oct 2018.
- [J3] P. Bergmann, R. Wang and D. Cremers,
Online Photometric Calibration of Auto Exposure Video for Realtime Visual Odometry and SLAM,
IEEE Robotics and Automation Letters (RA-L), 3: 627-634, April 2018, **ICRA'18 Best Vision Paper Award - Finalist.**

Conference and Workshop Papers

- [C1] M Gladkova, R Wang, N Zeller and D Cremers,
Tight Integration of Feature-based Relocalization in Monocular Direct Visual Odometry,
Proc. of the IEEE International Conference on Robotics and Automation (ICRA), 2021.
- [C2] Y. Xia, Y. Xu, S. Li, R. Wang, J. Du, D. Cremers and U. Stilla,
SOE-Net: A Self-Attention and Orientation Encoding Network for Point Cloud based Place Recognition,
IEEE Conference on Computer Vision and Pattern Recognition (CVPR), 2021, **Oral Presentation.**
- [C3] R. Wang, N. Yang, J. Stueckler and D. Cremers,
DirectShape: Photometric Alignment of Shape Priors for Visual Vehicle Pose and Shape Estimation,
Proc. of the IEEE International Conference on Robotics and Automation (ICRA), 2020.
- [C4] N. Yang, L. von Stumberg, R. Wang and D. Cremers,
D3VO: Deep Depth, Deep Pose and Deep Uncertainty for Monocular Visual Odometry,
IEEE Conference on Computer Vision and Pattern Recognition (CVPR), 2020, **Oral Presentation.**
- [C5] J. Du, R. Wang and D. Cremers,
DH3D: Deep Hierarchical 3D Descriptors for Robust Large-Scale 6DoF Relocalization,
European Conference on Computer Vision (ECCV), 2020, **Spotlight Presentation.**
- [C6] L. Koestler, N. Yang, R. Wang and D. Cremers,
Learning Monocular 3D Vehicle Detection without 3D Bounding Box Labels,
Proceedings of the German Conference on Pattern Recognition (GCPR), 2020.

- [C7] P. Wenzel, R. Wang, N. Yang, Q. Cheng, Q. Khan, L. von Stumberg, N. Zeller and D. Cremers,
4Seasons: A Cross-Season Dataset for Multi-Weather SLAM in Autonomous Driving,
Proceedings of the German Conference on Pattern Recognition (GCPR), 2020.
- [C8] X. Gao, R. Wang, N. Demmel and D. Cremers,
LDSO: Direct Sparse Odometry with Loop Closure,
International Conference on Intelligent Robots and Systems (IROS), October 2018.
- [C9] N. Yang, R. Wang, J. Stueckler and D. Cremers,
Deep Virtual Stereo Odometry: Leveraging Deep Depth Prediction for Monocular Direct Sparse Odometry,
European Conference on Computer Vision (ECCV), September 2018, **Oral Presentation.**
- [C10] R. Wang, M. Schwörer and D. Cremers,
Stereo DSO: Large-Scale Direct Sparse Visual Odometry with Stereo Cameras,
International Conference on Computer Vision (ICCV), Venice, Italy, October 2017.