2020
Journal Articles

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

[J2] L. von Stumberg, P. Wenzel, Q. Khan and D. Cremers,
GN-Net: The Gauss-Newton Loss for Multi-Weather Relocalization,

Conference and Workshop Papers

[C1] M. Eisenberger, Z. Lähner and D. Cremers,
Smooth Shells: Multi-Scale Shape Registration with Functional Maps,
IEEE International Conference on Computer Vision and Pattern Recognition (CVPR), 2020, Oral Presentation.

[C2] Sang, L., Haefner, B., Cremers and D.,
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] C. Sommer, V. Usenko, D. Schubert, N. Demmel and D. Cremers,

[C4] R. Wang, N. Yang, J. Stueckler and D. Cremers,
DirectShape: Photometric Alignment of Shape Priors for Visual Vehicle Pose and Shape Estimation,

[C5] N. Yang, L. von Stumberg, R. Wang and D. Cremers,
D3VO: Deep Depth, Deep Pose and Deep Uncertainty for Monocular Visual Odometry,
2020, Oral Presentation.

[C6] S. Weiss, R. Maier, D. Cremers, R. Westermann and N. Thuerey,
Correspondence-Free Material Reconstruction using Sparse Surface Constraints,
2019
Journal Articles


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[C4] Haefner, B., Ye, Z., Gao, M., Wu, T., Queau, Y., Cremers and D., Varia-
tional Uncalibrated Photometric Stereo under General Lighting, 
International Conference on Computer Vision (ICCV), Seoul, South Korea, October 2019.

[C5] Q. Khan, P. Wenzel, D. Cremers and L. Leal-Taixe, 
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[C6] M. Moeller, T. Möllenhoff and D. Cremers, 
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[C7] S. Weiss, R. Maier, R. Westermann, D. Cremers and N. Thuerey, 
Sparse Surface Constraints for Combining Physics-based Elasticity Simulation and Correspondence-Free Object Reconstruction, 

[C8] D. Schubert, N. Demmel, L. von Stumberg, V. Usenko and D. Cremers, 
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[C9] P. Brechet, T. Wu, T. Möllenhoff and D. Cremers, 
Informative GANs via Structured Regularization of Optimal Transport, 

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[J1] J. Engel, V. Koltun and D. Cremers, 
Direct Sparse Odometry, 
March 2018.

[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 Ro-

[J3] Queau, Y., Durix, B., Wu, T., Cremers, D., Lauze, F., Durou and J.-D., 
LED-based Photometric Stereo: Modeling, Calibration and Numerical Soluti-
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[J4] 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.

[J5] E. Aljalbout, V. Golkov, Y. Siddiqi, M. Strobel and D. Cremers, 
Clustering with Deep Learning: Taxonomy and New Methods, 
Author: Cremers

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[J6] L. Ma,, J. Stueckler, T. Wu and D. Cremers,
Detailed Dense Inference with Convolutional Neural Networks via Discrete Wavelet Transform,
Aug 2018.

[J7] Tjaden, Henning, Schwanecke, Ulrich, Schömer, Elmar, Cremers and Daniel,
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[C1] Caner Hazirbas, Sebastian Georg Soyer, Maximilian Christian Staab, Laura Leal-Taixe and Daniel Cremers,
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Asian Conference on Computer Vision (ACCV), December 2018.

[C2] E. Laude, T. Wu and D. Cremers,
A Nonconvex Proximal Splitting Algorithm under Moreau-Yosida Regularization,
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[C3] T. Möllenhoff, Z. Ye, T. Wu and D. Cremers,
Combinatorial Preconditioners for Proximal Algorithms on Graphs,
International Conference on Artificial Intelligence and Statistics (AISTATS), 2018.

q-Space Novelty Detection in Short Diffusion MRI Scans of Multiple Sclerosis, 2018.


[C6] B. T. Do, V. Golkov, G. E. Gürel and D. Cremers,

[C7] P. Haeusser, J. Plapp, V. Golkov, E. Aljalbout and D. Cremers,
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Proc. of the German Conference on Pattern Recognition (GCPR), October 2018.

[C8] Nikolaus Mayer, Eddy Ilg, Philipp Fischer, Caner Hazirbas, Daniel Cremers, Alexey Dosovitskiy and Thomas Brox,
Author: Cremers

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[C9] T. Frerix, T. Möllenhoff, M. Moeller and D. Cremers,
Proximal Backpropagation,

[C10] L. von Stumberg, V. Usenko and D. Cremers,
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May 2018.

The TUM VI Benchmark for Evaluating Visual-Inertial Odometry,
October 2018.

[C12] X. Gao, R. Wang, N. Demmel and D. Cremers,
LDSO: Direct Sparse Odometry with Loop Closure,
iros, October 2018.

[C13] Z. Lähner, D. Cremers and T. Tung,
DeepWrinkles: Accurate and Realistic Clothing Modeling,
September 2018, Oral Presentation.

[C14] D. Schubert, N. Demmel, V. Usenko, J. Stueckler and D. Cremers,
Direct Sparse Odometry With Rolling Shutter,
September 2018, Oral Presentation.

[C15] V. Usenko, N. Demmel and D. Cremers,
The Double Sphere Camera Model,

[C16] I. Chiotellis, F. Zimmermann, D. Cremers and R. Triebel,
Incremental Semi-Supervised Learning from Streams for Object Classification,

[C17] P. Wenzel, Q. Khan, D. Cremers and L. Leal-Taixe,
Modular Vehicle Control for Transferring Semantic Information Between Weather Conditions Using GANs,
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[C18] Haefner, B., Queau, Y., Möllenhoff, T., Cremers and D.,
Fight ill-posedness with ill-posedness: Single-shot variational depth super-resolution from shading,

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[J1] V. Golkov, M. J. Skwark, A. Mirchev, G. Dikov, A. R. Geanes, J. Mendenhall, J. Meiler and D. Cremers,
3D Deep Learning for Biological Function Prediction from Physical Fields,

Tau Like Proteins Reduce Torque Generation in Microtubule Bundles,
[J3] J. Kukacka, V. Golkov and D. Cremers,
Regularization for Deep Learning: A Taxonomy,

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[C1] M. Jaimez, T. J. Cashman, A. Fitzgibbon, J. Gonzalez-Jimenez and D. Cremers,
[C2] L. Ma, J. Stueckler, C. Kerl and D. Cremers,
Multi-View Deep Learning for Consistent Semantic Mapping with RGB-D Cameras,
Vancouver, Canada, Sep 2017.
[C3] Vestner, M., Litman, R., Rodola, E., Bronstein, A., Cremers and D.,
[C4] M. Dzitsiuk, J. Sturm, R. Maier, L. Ma and D. Cremers,
De-noising, Stabilizing and Completing 3D Reconstructions On-the-go using Plane Priors,
[C5] 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.
[C6] Florian Walch, Caner Hazirbas, Laura Leal-Taixe, Torsten Sattler, Sebastian Hilsenbeck and Daniel Cremers,
Image-based localization using LSTMs for structured feature correlation, October 2017.
Establishment of an interdisciplinary workflow of machine learning-based Radiomics in sarcoma patients,
[C8] Queau, Y., Pizenberg, M., Durou, J.-D., Cremers and D.,
Microgeometry capture and RGB albedo estimation by photometric stereo without demosaicing,
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[C9] P. Haeusser, A. Mordvintsev and D. Cremers,
[C10] 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,
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[C11] Tim Meinhardt, Michael Moeller, Caner Hazirbas and Daniel Cremers,
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October 2017.

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Honolulu, USA, 2017.

[C13] Queau, Y., Melou, J., Durou, J.-D., Cremers and D.,
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[C14] P. Haeusser, T. Frerix, A. Mordvintsev and D. Cremers,
Associative Domain Adaptation,
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Efficient Deformable Shape Correspondence via Kernel Matching,
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[C16] R. Maier, K. Kim, D. Cremers, J. Kautz and M. Niessner,
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.

[C17] T. Möllenhoff and D. Cremers,
Sublabel-Accurate Discretization of Nonconvex Free-Discontinuity Problems,
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[C18] Queau, Y., Melou, J., Castan, F., Cremers, D., Durou and J.-D.,
A Variational Approach to Shape-from-shading Under Natural Illumination,

[C19] F. Bernard, F. R. Schmidt, J. Thunberg and D. Cremers,
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[C20] Peng, S., Haefner, B., Queau, Y., Cremers and D.,
Depth Super-Resolution Meets Uncalibrated Photometric Stereo,
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[J1] L. Cosmo, E. Rodola, A. Albarelli, F. Memoli and D. Cremers,
Consistent Partial Matching of Shape Collections via Sparse Modeling,
Anisotropic Diffusion Descriptors,  

[J3] V. Golkov, A. Dosovitskiy, J. I. Sperl, M. I. Menzel, M. Czisch, P. Sämann, T. Brox and D. Cremers,  
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[J4] O. Litany, E. Rodola, A. M. Bronstein, M. M. Bronstein and D. Cremers,  
Non-Rigid Puzzles,  

[J5] Vestner, M., Litman, R., Bronstein, A., Rodola, E., Cremers and D.,  
Bayesian Inference of Bijective Non-Rigid Shape Correspondence,  

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[BC1] Vestner, M., Rodola, E., Windheuser, T., Bulo, Rota Bulo, S., Cremers and D.,  
Applying Random Forests to the Problem of Dense Non-rigid Shape Correspondence,  

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[C1] N.Mayer, E.Ilg, P.Haeusser, P.Fischer, D.Cremers, A.Dosovitskiy and T.Brox,  
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[C3] V. Golkov, M. J. Skwark, A. Golkov, A. Dosovitskiy, T. Brox, J. Meiler and D. Cremers,  
Protein Contact Prediction from Amino Acid Co-Evolution Using Convolutional Networks for Graph-Valued Images,  
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[C4] Z. Lähner, E. Rodola, F. R. Schmidt, M. M. Bronstein and D. Cremers,  
Efficient Globally Optimal 2D-to-3D Deformable Shape Matching,  
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[C5] A. Narr, R. Triebel and D. Cremers,  
Stream-based Active Learning for Efficient and Adaptive Classification of 3D Objects,  
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SHREC16: Matching of Deformable Shapes with Topological Noise,  
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[J6] R. Mecca, E. Rodola and D. Cremers,
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[J7] T. Möllenhoff, E. Strekalovskiy, M. Möller and D. Cremers,
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[BC1] V. Golkov, J. M. Portegies, A. Golkov, R. Duits and D. Cremers,
Holistic Image Reconstruction for Diffusion MRI,
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[C1] M. Möller, J. Diebold, G. Gilboa and D. Cremers,
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2015.

[C2] J. Diebold, N. Demmel, C. Hazirbas, M. Möller and D. Cremers,
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[C4] T. Möllenhoff, E. Strekalovskiy, M. Möller and D. Cremers,
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[C5] M. Jaimez, M. Souiai, J. Gonzalez-Jimenez and D. Cremers,
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[C13] J. Engel, J. Stueckler and D. Cremers,
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[C15] Y. Tao, R. Triebel and D. Cremers,
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[C16] R. Maier, J. Stueckler and D. Cremers,
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[C17] M. Jaimez, M. Souiai, J. Stueckler, J. Gonzalez-Jimenez and D. Cremers,
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[C18] E. Rodola, M. Moeller and D. Cremers,
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[C19] C. Kerl, J. Stueckler and D. Cremers,
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[C20] M. Souiai, M. R. Oswald, Y. Kee, J. Kim, M. Pollefeys and D. Cremers, 
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[C21] F. Stark, C. Hazirbas, R. Triebel and D. Cremers, 
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[J2] E. Strekalovskiy, A. Chambolle and D. Cremers, 
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[C4] D. Weikersdorfer, D. B. Adrian, D. Cremers and J. Conrad,
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[C5] F. Steinbruecker, J. Sturm and D. Cremers,
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[C11] T. Windheuser, M. Vestner, E. Rodola, R. Triebel and D. Cremers,
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[C25] D. Bender, M. Schikora, J. Sturm and D. Cremers, 
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[C26] C. Kerl, M. Souiai, J. Sturm and D. Cremers, 
[C27] F. R. Schmidt, T. Windheuser, U. Schlickewei and D. Cremers,
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