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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,
**Efficient Derivative Computation for Cumulative B-Splines on Lie Groups,**
2020, Oral Presentation.

[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,**
*IEEE International Conference on Computer Vision and Pattern Recognition (CVPR)*, 2020.
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[J1] F. Pasa, V. Golkov, F. Pfeiffer, D. Cremers and D. Pfeiffer,  
Efficient Deep Network Architectures for Fast Chest X-Ray Tuberculosis  
Screening and Visualization,  

[J2] J. Schuchardt, V. Golkov and D. Cremers,  
Learning to Evolve,  

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

[J4] Haefner, B., Peng, S., Verma, A., Queau, Y., Cremers and D.,  
Photometric Depth Super-Resolution,  

[J5] Brahimi, M., Queau, Y., Haefner, B., Cremers and D.,  
On well-posedness of uncalibrated photometric stereo under general lighting,  

[J6] Laude, E., Ochs, P., Cremers and D.,  
Bregman Proximal Mappings and Bregman-Moreau Envelopes under Relative Prox-Regularity,  
2019.

[J7] Mahesh Chandra Mukkamala, Felix Westerkamp, Emanuel Laude, Daniel Cremers and Peter Ochs,  
Bregman Proximal Framework for Deep Linear Neural Networks,  

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[C1] A. Vasilev, V. Golkov, M. Meissner, I. Lipp, E. Sgarlata, V. Tomassini, D. K. Jones and D. Cremers,  
q-Space Novelty Detection with Variational Autoencoders,  
MICCAI 2019 International Workshop on Computational Diffusion MRI, 2019, Oral Presentation.

[C2] P. Swazinna, V. Golkov, I. Lipp, E. Sgarlata, V. Tomassini, D. K. Jones and D. Cremers,  
Negative-Unlabeled Learning for Diffusion MRI,  
2019.

[C3] T. Möllenhoff and D. Cremers,  
Lifting Vectorial Variational Problems: A Natural Formulation based on Geometric Measure Theory and Discrete Exterior Calculus,  
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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.

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A Region-based Gauss-Newton Approach to Real-Time Monocular Multiple Object Tracking,

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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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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,
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q-Space Deep Learning for Alzheimer’s Disease Diagnosis: Global Prediction and Weakly-Supervised Localization,
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[C6] B. T. Do, V. Golkov, G. E. Gürel and D. Cremers,
Precursor microRNA Identification Using Deep Convolutional Neural Networks,
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[C7] P. Haeusser, J. Plapp, V. Golkov, E. Aljalbout and D. Cremers,
Associative Deep Clustering - Training a Classification Network with no Labels,
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,
What Makes Good Synthetic Training Data for Learning Disparity and Optical Flow Estimation?,
September 2018.
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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,
Direct Sparse Visual-Inertial Odometry using Dynamic Marginalization,
May 2018.

The TUM VI Benchmark for Evaluating Visual-Inertial Odometry,
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LDSO: Direct Sparse Odometry with Loop Closure,
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[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,
Conference on Robot Learning (CoRL), 2018.

[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,
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[C1] 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,
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Vancouver, Canada, Sep 2017.

[C3] Vestner, M., Litman, R., Rodola, E., Bronstein, A., Cremers and D.,
Product Manifold Filter: Non-Rigid Shape Correspondence via Kernel Density Estimation in the Product Space,
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[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,
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[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,
Learning by Association - A versatile semi-supervised training method for neural networks,
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[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,
Vancouver, Canada, Sep 2017.


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[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,
Computer Graphics Forum, 35(5): 2016, Received the Best Paper Award at SGP
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[J5] Vestner, M., Litman, R., Bronstein, A., Rodola, E., Cremers and D.,
Bayesian Inference of Bijective Non-Rigid Shape Correspondence,

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spondence,

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[C1] N.Mayer, E.Ilg, P.Haeusser, P.Fischer, D.Cremers, A.Dosovitskiy and T.Broix,
A Large Dataset to Train Convolutional Networks for Disparity, Optical Flow,
and Scene Flow Estimation,
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Protein Contact Prediction from Amino Acid Co-Evolution Using Convolutional
Networks for Graph-Valued Images,
Barcelona, Spain, December 2016.

[C4] Z. Lähner, E. Rodola, F. R. Schmidt, M. M. Bronstein and D. Cremers,
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Stream-based Active Learning for Efficient and Adaptive Classification of 3D
Objects,
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mann, R. Klein and Y. Sahillioglu,
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J6] R. Mecca, E. Rodola and D. Cremers,
Realistic Photometric Stereo Using Partial Differential Irradiance Equation Ratios,

J7] T. Möllenhoff, E. Strekalovskiy, M. Möller and D. Cremers,
The Primal-Dual Hybrid Gradient Method for Semiconvex Splittings,

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BC1 V. Golkov, J. M. Portegies, A. Golkov, R. Duits and D. Cremers,
Holistic Image Reconstruction for Diffusion MRI,
*Computational Diffusion MRI*, Munich, Germany, Springer, October 2015, Book Chapter, and Oral Presentation at MICCAI 2015 Workshop on Computational Diffusion MRI.

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C1] M. Moeller, J. Diebold, G. Gilboa and D. Cremers,
Learning Nonlinear Spectral Filters for Color Image Reconstruction,
2015.

C2] J. Diebold, N. Demmel, C. Hazirbas, M. Möller and D. Cremers,
Interactive Multi-label Segmentation of RGB-D Images,
2015.

C3] C. Hazirbas, J. Diebold and D. Cremers,
Optimizing the Relevance-Redundancy Tradeoff for Efficient Semantic Segmentation,
2015.

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Low Rank Priors for Color Image Regularization,
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A Primal-Dual Framework for Real-Time Dense RGB-D Scene Flow,
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A Fast Projection Method for Connectivity Constraints in Image Segmentation,
X.-C. Tai, E. Bae, T. F. Chan and M. Lysaker(Eds.), , 2015.

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Active Online Confidence Boosting for Efficient Object Classification,

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q-Space Deep Learning for Twelve-Fold Shorter and Model-Free Diffusion MRI Scans,
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V. Evers, M. Fiore, H. Hung, O. A. Islas Ramirez, M. Joosse, H. Khambhaita, T. Kucner,
B. Leibe, A. J. Lilienthal, T. Linder, M. Lohse, M. Magnusson, B. Okal, L. Palmieri, U. Rafi,
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[C13] J. Engel, J. Stueckler and D. Cremers,
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2015.

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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. Soniai, J. Stueckler, J. Gonzalez-Jimenez and D. Cremers,
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[C18] E. Rodola, M. Moeller and D. Cremers,
Point-wise Map Recovery and Refinement from Functional Correspondence,
Aachen, Germany, 2015, Received the Best Paper Award.

[C19] C. Kerl, J. Stueckler and D. Cremers,
Dense Continuous-Time Tracking and Mapping with Rolling Shutter RGB-D Cameras,
Santiago, Chile, 2015.
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[C20] M. Souiai, M. R. Oswald, Y. Kee, J. Kim, M. Pollefeys and D. Cremers,
Entropy Minimization for Convex Relaxation Approaches,
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[C21] F. Stark, C. Hazirbas, R. Triebel and D. Cremers,
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[J1] B. Goldluecke, M. Aubry, K. Kolev and D. Cremers,
A Super-resolution Framework for High-Accuracy Multiview Reconstruction,

[J2] E. Strekalovskiy, A. Chambolle and D. Cremers,
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[C17] M. R. Oswald, J. Stühmer and D. Cremers, 
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[C18] E. Strekalovskiy and D. Cremers, 
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[C19] A. Kanezaki, E. Rodola, D. Cremers and T. Harada, 
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[C24] A. Kanezaki, E. Rodola, D. Cremers and T. Harada, 
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[J1] C. Nieuwenhuis and D. Cremers,
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Proximity Priors for Variational Semantic Segmentation and Recognition,
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[C3] V. Golkov, T. Sprenger, A. Menini, M.I. Menzel, D. Cremers and J.I. Sperl,
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pressed Sensing on Diffusion MR Image Reconstruction and Kurtosis Tensor Estimation,
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[C6] V. Golkov, M.I. Menzel, T. Sprenger, A. Menini, D. Cremers and J.I. Sperl,
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