2019

Journal Articles

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

[J3] J. Schuchardt, V. Golkov and D. Cremers,
Learning to Evolve,

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

[J5] L. von Stumberg, P. Wenzel, Q. Khan and D. Cremers,
GN-Net: The Gauss-Newton Loss for Deep Direct SLAM,

[J6] M. Eisenberger, Z. Lähner and D. Cremers,
Smooth Shells: Multi-Scale Shape Registration with Functional Maps,

[J7] Haefner, B., Peng, S., Verma, A., Queau, Y., Cremers and D.,
Photometric Depth Super-Resolution,

[J8] Q. Khan, P. Wenzel, D. Cremers and L. Leal-Taixe,
Towards Generalizing Sensorimotor Control Across Weather Conditions,

Conference and Workshop Papers

[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,

[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,
2019, Oral Presentation.
Author: Cremers

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[C2] E. Laude, T. Wu and D. Cremers,
A Nonconvex Proximal Splitting Algorithm under Moreau-Yosida Regularization,
*International Conference on Artificial Intelligence and Statistics (AISTATS)*, 2018.

[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.

D. K. Jones and D. Cremers,
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,
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,

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

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

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

[C12] X. Gao, R. Wang, N. Demmel and D. Cremers,

[C13] Z. Lähner, D. Cremers and T. Tung,
Author: Cremers

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[C14] D. Schubert, N. Demmel, V. Usenko, J. Stueckler and D. Cremers,

[C15] V. Usenko, N. Demmel and D. Cremers,

[C16] I. Chiotellis, F. Zimmermann, D. Cremers and R. Triebel,

[C17] P. Wenzel, Q. Khan, D. Cremers and L. Leal-Taixe,

[C18] Haefner, B., Queau, Y., Möllenhoff, T., Cremers and D.,

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Journal Articles

[J1] V. Golkov, M. J. Skwark, A. Mirchev, G. Dikov, A. R. Geanes, J. Mendenhall, J. Meiler and D. Cremers,


[J4] J. Kukacka, V. Golkov and D. Cremers,

Conference and Workshop Papers

[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.,
Product Manifold Filter: Non-Rigid Shape Correspondence via Kernel Density Estimation in the Product Space,
2017.

[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,
International Conference on Quality Control by Artificial Vision (QCAV), 2017.

[C9] P. Haeusser, A. Mordvintsev and D. Cremers,
Learning by Association - A versatile semi-supervised training method for neural networks,
2017.

[C10] V. Usenko, L. von Stumberg, A. Panceric and D. Cremers,
Real-Time Trajectory Replanning for MAVs using Uniform B-splines and a 3D Circular Buffer,
Vancouver, Canada, Sep 2017.

[C11] Tim Meinhardt, Michael Moeller, Caner Hazirbas and Daniel Cremers,
Learning Proximal Operators: Using Denoising Networks for Regularizing Inverse Imaging Problems,
October 2017.

One-Shot Video Object Segmentation,
Honolulu, USA, 2017.
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[C13] Queau, Y., Melou, J., Durou, J.-D., Cremers and D.,
Dense Multi-view 3D-reconstruction Without Dense Correspondences,

[C14] P. Haeusser, T. Frerix, A. Mordvintsev and D. Cremers,
Associative Domain Adaptation,
2017.

Bronstein, M. M. Bronstein, R. Kimmel and D. Cremers,
Efficient Deformable Shape Correspondence via Kernel Matching,
International Conference on 3D Vision (3DV), Qingdao, China, October 2017,
Oral Presentation.

[C16] R. Maier, K. Kim, D. Cremers, J. Kautz and M. Niessner,
Intrinsic3D: High-Quality 3D Reconstruction by Joint Appearance and Geo-
mety Optimization with Spatially-Varying Lighting,
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[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,
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PR), 2017.

[C19] F. Bernard, F. R. Schmidt, J. Thunberg and D. Cremers,
A Combinatorial Solution to Non-Rigid 3D Shape-to-Image Matching,

[C20] Peng, S., Haefner, B., Queau, Y., Cremers and D.,
Depth Super-Resolution Meets Uncalibrated Photometric Stereo,
International Conference on Computer Vision Workshops (ICCVW), 2017, Oral Pre-
sentation at ICCV Workshop on Color and Photometry in Computer Vision.

2016

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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,
q-Space Deep Learning: Twelve-Fold Shorter and Model-Free Diffusion MRI Scans,
35: 2016, Special Issue on Deep Learning.
Author: Cremers

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[C9] L. Ma, C. Kerl, J. Stueckler and D. Cremers,  
**CPA-SLAM: Consistent Plane-Model Alignment for Direct RGB-D SLAM**,  
May 2016.

[C10] J. Engel, V. Usenko and D. Cremers,  
**A Photometrically Calibrated Benchmark For Monocular Visual Odometry**,  

[C11] J. Engel, V. Koltun and D. Cremers,  
**Direct Sparse Odometry**,  

[C12] E. Laude, T. Möllenhoff, M. Moeller, J. Lellmann and D. Cremers,  
**Sublabel-Accurate Convex Relaxation of Vectorial Multilabel Energies**,  
October 2016.

[C13] T. Windheuser and D. Cremers,  
**A Convex Solution to Spatially-Regularized Correspondence Problems**,  
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[C14] S. Sharifzadeh, I. Chiotellis, R. Triebel and D. Cremers,  
**Learning to Drive using Inverse Reinforcement Learning and Deep Q-Networks**,  
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[J1] J. Diebold, C. Nieuwenhuis and D. Cremers,  
**Midrange Geometric Interactions for Semantic Segmentation**,  
2015.

[J2] J. Diebold, S. Tari and D. Cremers,  
**The Role of Diffusion in Figure Hunt Games**,  

[J3] S. Madhogaria, P. M. Baggenstoss, M. Schikora, W. Koch and D. Cremers,  
**Car detection by fusion of HOG and causal MRF**,  

[J4] M. Klodt, K. Herzog, R. Töpfer and D. Cremers,  
**Field phenotyping of grapevine growth using dense stereo reconstruction**,  

[J5] E. Rodola, A. Albarelli, D. Cremers and A. Torsello,  
**A Simple and Effective Relevance-based Point Sampling for 3D Shapes**,  

[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**,  
Book Chapters

[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, 
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[C4] T. Möllenhoff, E. Strekalovskiy, M. Möller and D. Cremers, 
Low Rank Priors for Color Image Regularization, 
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[C5] M. Jaimez, M. Souiai, J. Gonzalez-Jimenez and D. Cremers, 
A Primal-Dual Framework for Real-Time Dense RGB-D Scene Flow, 
Proc. of the IEEE Int. Conf. on Robotics and Automation (ICRA), 2015.

[C6] J. Stühmer and D. Cremers, 
A Fast Projection Method for Connectivity Constraints in Image Segmentation, 
X.-C. Tai, E. Bae, T. F. Chan and M. Lysaker(Eds.), , 2015.

[C7] R. Mecca, E. Rodola and D. Cremers, 
Analysis of Surface Parametrizations for Modern Photometric Stereo Modelling, 
*International Conference on Quality Control by Artificial Vision (QCAV)*, 2015.

[C8] F. Bergamasco, A. Albarelli, L. Cosmo, A. Torsello, E. Rodola and D. Cremers, 
Adopting an Unconstrained Ray Model in Light-field Cameras for 3D Shape Reconstruction, 
2015.

[C9] D. Mund, R. Triebel and D. Cremers, 
Active Online Confidence Boosting for Efficient Object Classification, 

q-Space Deep Learning for Twelve-Fold Shorter and Model-Free Diffusion MRI Scans, 
Munich, Germany, October 2015.


[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*.


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[C22] J. Stühmer, S. Nowozin, A. Fitzgibbon, R. Szeliski, T. Perry, S. Acharya, D. Cremers and J. Shotton,
Model-Based Tracking at 300Hz using Raw Time-of-Flight Observations, Santiago, Chile, 2015.

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[J1] B. Goldluecke, M. Aubry, K. Kolev and D. Cremers,

[J2] E. Strekalovskiy, A. Chambolle and D. Cremers,

[J3] J. Engel, J. Sturm and D. Cremers,
Scale-Aware Navigation of a Low-Cost Quadrocopter with a Monocular Camera,

[J4] E. Rodola, S. Rota Bulo and D. Cremers,
Robust Region Detection via Consensus Segmentation of Deformable Shapes,

Books

[B1] D. Cremers, I. Reid, H. Saito and M.-S. Yang (Editors),
Computer Vision: ACCV 2014,
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Joint Super-Resolution Using Only One Anisotropic Low-Resolution Image per q-Space Coordinate,
Computational Diffusion MRI, Springer, 2014, Book Chapter, and Oral Presentation at MICCAI 2014 Workshop on Computational Diffusion MRI.

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Improved Diffusion Kurtosis Imaging and Direct Propagator Estimation Using 6-D Compressed Sensing, 
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[C4] D. Weikersdorfer, D. B. Adrian, D. Cremers and J. Conrad, 
Event-based 3D SLAM with a depth-augmented dynamic vision sensor, 
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[C5] F. Steinbruecker, J. Sturm and D. Cremers, 
Volumetric 3D Mapping in Real-Time on a CPU, 
Hongkong, China, 2014.

[C6] E. Rodola, S. Rota Bulo, T. Windheuser, M. Vestner and D. Cremers, 
Dense Non-Rigid Shape Correspondence Using Random Forests, 
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[C7] Y. Kee, M. Souiai, D. Cremers and J. Kim, 
Sequential Convex Relaxation for Mutual-Information-Based Unsupervised Figure-Ground Segmentation, 
2014.

[C8] H. Alvarez, L.M. Paz, J. Sturm and D. Cremers, 
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[C9] J. Engel, T. Schöps and D. Cremers, 
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September 2014, Oral Presentation.

[C10] T. Schöps, J. Engel and D. Cremers, 
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September 2014, Best Short Paper Award.

[C11] T. Windheuser, M. Vestner, E. Rodola, R. Triebel and D. Cremers, 
Optimal Intrinsic Descriptors for Non-Rigid Shape Analysis, 
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[C12] M. Strobel, J. Diebold and D. Cremers, 
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[C13] R. Maier, J. Sturm and D. Cremers, 
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[C14] T. Gurdan, M. R. Oswald, D. Gurdan and D. Cremers, 
Spatial and Temporal Interpolation of Multi-View Image Sequences, 
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[C15] M. R. Oswald and D. Cremers, 
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C. Nieuwenhuis, S. Hawe, M. Kleinsteuber and D. Cremers,
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E. Strekalovskiy and D. Cremers,
Real-Time Minimization of the Piecewise Smooth Mumford-Shah Functional,

A. Kanezaki, E. Rodola, D. Cremers and T. Harada,
[Taiou tenshuugou ruijido gakushuu wo mochiita goutai-higoutai buttai kenshutsu],

M. Andreux, E. Rodola, M. Aubry and D. Cremers,
Anisotropic Laplace-Beltrami Operators for Shape Analysis,
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O. Dunkley, J. Engel, J. Sturm and D. Cremers,
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A. Kanezaki, E. Rodola, D. Cremers and T. Harada,
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D. Bender, M. Schikora, J. Sturm and D. Cremers,
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on*,

[J2] C. Nieuwenhuis, E. Toeppe and D. Cremers,
*A Survey and Comparison of Discrete and Continuous Multi-label Optimization
Approaches for the Potts Model*,

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*Tight Convex Relaxations for Vector-Valued Labeling*,

[J4] F. Endres, J. Hess, J. Sturm, D. Cremers and W. Burgard,
3D Mapping with an RGB-D Camera,

[J5] 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,

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*Moment Constraints in Convex Optimization for Segmentation and Tracking*,

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[C1] M. Souiai, C. Nieuwenhuis, E. Strekalovskiy and D. Cremers,
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*ICCV Workshop on Graphical Models for Scene Understanding*, 2013.

[C2] J. Bergbauer, C. Nieuwenhuis, M. Souiai and D. Cremers,
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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sity Inhomogeneity Correction and Noise Non-Stationarity Correction,
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[C17] T. Naseer, J. Sturm and D. Cremers,
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Graph-based bundle adjustment for INS-camera calibration,
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[C21] J. Sturm, E. Bylow, F. Kahl and D. Cremers,
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[C22] E. Rodola, T. Harada, Y. Kuniyoshi and D. Cremers,
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[C23] J. Engel, J. Sturm and D. Cremers,
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[C24] E. Rodola, A. Torsello, T. Harada, Y. Kuniyoshi and D. Cremers,
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Total Cyclic Variation and Generalizations,

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