2020
Conference and Workshop Papers

[C1] Sang, L., Haefner, B., Cremers and D.,
Inferring Super-Resolution Depth from a Moving Light-Source Enhanced RGB-D Sensor: A Variational Approach,

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 Multi-Weather Relocalization,

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

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Author: Cremers

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2018

Journal Articles


[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. Siddiqui, M. Strobel and D. Cremers,
Clustering with Deep Learning: Taxonomy and New Methods,

[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,
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,
Deep Depth From Focus,
*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,
*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.

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 La-
beIs, Proc. of the German Conference on Pattern Recognition (GCPR), October 2018.

[C8] Nikolaus Mayer, Eddy Ilg, Philipp Fischer, Caner Hazirbas, Daniel Cremers, Alexey Do-
sovitskiy and Thomas Brox,
What Makes Good Synthetic Training Data for Learning Disparity and Optical Flow Estimation?,
September 2018.

[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,
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,
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,
Author: Cremers

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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,

Genetic defects in s-spectrin and tau sensitize C. elegans axons to movement-induced damage via torque-tension coupling,

Tau Like Proteins Reduce Torque Generation in Microtubule Bundles,

[J4] 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,
An Efficient Background Term for 3D Reconstruction and Tracking with Smooth Subdivision Surface Models,
2017.

[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,

[C6] Florian Walch, Caner Hazirbas, Laura Leal-Taixe, Torsten Sattler, Sebastian Hilsenbeck and Daniel Cremers,
Image-based localization using LSTMs for structured feature correlation,
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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,
A Combinatorial Solution to Non-Rigid 3D Shape-to-Image Matching,

[C20] Peng, S., Haefner, B., Queau, Y., Cremers and D.,
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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.

[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,

Book Chapters

[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,
A Large Dataset to Train Convolutional Networks for Disparity, Optical Flow, and Scene Flow Estimation,
IEEE International Conference on Computer Vision and Pattern Recognition (CVPR), 2016.


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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,

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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,
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[C2] J. Diebold, N. Demmel, C. Hazirbas, M. Möller and D. Cremers,
Interactive Multi-label Segmentation of RGB-D Images,
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[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,
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A Fast Projection Method for Connectivity Constraints in Image Segmentati-
on,
X.-C. Tai, E. Bae, T. F. Chan and M. Lysaker(Eds.), , 2015.

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Analysis of Surface Parametrizations for Modern Photometric Stereo Mode-
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[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
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2015.

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

P. A. Gomez, A. Haase, T. Brox and D. Cremers,
q-Space Deep Learning for Twelve-Fold Shorter and Model-Free Diffusion MRI
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[C11] A. Dosovitskiy, P. Fischer, E. Ilg, P. Haeusser, C. Hazirbas, V. Golkov, P. van der Smagt,
D. Cremers and T. Brox,
FlowNet: Learning Optical Flow with Convolutional Networks,
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V. Evers, M. Fiore, H. Hung, O. A. Islas Ramirez, M. Joosse, H. Kambhaita, T. Kucner,
Rafi, M. van Rooij and L. Zhang,
SPENCER: A Socially Aware Service Robot for Passenger Guidance and Help
in Busy Airports,

[C13] J. Engel, J. Stueckler and D. Cremers,
Large-Scale Direct SLAM with Stereo Cameras,
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[C14] D. Caruso, J. Engel and D. Cremers,
Large-Scale Direct SLAM for Omnidirectional Cameras,
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[C15] Y. Tao, R. Triebel and D. Cremers,
Semi-supervised Online Learning for Efficient Classification of Objects in 3D Data Streams,
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[C16] R. Maier, J. Stueckler and D. Cremers,
Super-Resolution Keyframe Fusion for 3D Modeling with High-Quality Textures,

[C17] M. Jaimez, M. Souiai, J. Stueckler, J. Gonzalez-Jimenez and D. Cremers,
Motion Cooperation: Smooth Piece-Wise Rigid Scene Flow from RGB-D Images,

[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.

[C20] M. Souiai, M. R. Oswald, Y. Kee, J. Kim, M. Pollefeys and D. Cremers,
Entropy Minimization for Convex Relaxation Approaches, Santiago, Chile, 2015.

[C21] F. Stark, C. Hazirbas, R. Triebel and D. Cremers,
CAPTCHA Recognition with Active Deep Learning,
*GCPR Workshop on New Challenges in Neural Computation*, Aachen, Germany, 2015.

[C22] J. Stühmer, S. Nowozin, A. Fitzgibbon, R. Szeliski, T. Perry, S. Acharya, D. Cremers and J. Shotton,
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[J1] B. Goldluecke, M. Aubry, K. Kolev and D. Cremers,

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

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Scale-Aware Navigation of a Low-Cost Quadrocopter with a Monocular Camera,
Author: Cremers

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

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[B1] D. Cremers, I. Reid, H. Saito and M.-S. Yang (Editors),
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[C7] Y. Kee, M. Souiai, D. Cremers and J. Kim,
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[C8] H. Alvarez, L.M. Paz, J. Sturm and D. Cremers, 
Collision Avoidance for Quadrotors with a Monocular Camera, 

[C9] J. Engel, T. Schöps and D. Cremers, 
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[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, 
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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, 
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[C15] M. R. Oswald and D. Cremers, 
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[C16] C. Nieuwenhuis, S. Hawe, M. Kleinsteuber 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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[C22] R. Triebel, J. Stühmer, M. Souiai and D. Cremers,
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[C24] A. Kanezaki, E. Rodola, D. Cremers and T. Harada,
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[J2] C. Nieuwenhuis, E. Toeppe and D. Cremers,
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[J4] F. Endres, J. Hess, J. Sturm, D. Cremers and W. Burgard,
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Author: Cremers

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[J5] Liu, Z., Beetz, M., Cremers, D., Gall, J., Li, W., Pangercic, D., Sturm, J., Tai and Y.-W.,
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RGB-D cameras,

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[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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Unmanned Aerial Vehicle in Geomatics (UAV-g), Rostock, Germany, September 2013, 
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