All: 1  List of Publications

Journal Articles

[J1] C Tomani, F Waseda, Y Shen and D Cremers, 
Beyond In-Domain Scenarios: Robust Density-Aware Calibration, 

[J2] S Klenk, L Koestler, D Scaramuzza and D Cremers, 
E-nerf: Neural radiance fields from a moving event camera, 

[J3] D Zhu, Q Khan and D Cremers, 
Multi-Vehicle Trajectory Prediction at Intersections using State and Intention Information, 

[J4] Q Khan, I Stilö, M Ocal and D Cremers, 
Learning vision based autonomous lateral vehicle control without supervision, 

[J5] T Wimmer, V Golkov, HN Dang, M Zaiss, A Maier and D Cremers, 
Scale-Equivariant Deep Learning for 3D Data, 

[J6] HN Dang, V Golkov, T Wimmer, D Cremers, A Maier and M Zaiss, 
Joint MR sequence optimization beats pure neural network approaches for spin-echo MRI super-resolution, 

[J7] M Zaiss, HN Dang, V Golkov, J Rajput, D Cremers, F Knoll and A Maier, 
GPT4MR: Exploring GPT-4 as an MR Sequence and Reconstruction Programming Assistant, 

[J8] L Sang, A Saroha, M Gao and D Cremers, 
Weight-Aware Implicit Geometry Reconstruction with Curvature-Guided Sampling, 

[J9] M Brahimi, B Haefner, T Yenamandra, B Goldluecke and D Cremers, 
SuperRVol: Super-Resolution Shape and Reflectance Estimation in Inverse Volume Rendering, 

[J10] Z. Ye, B. Haefner, Y. Queau, T. Möllenhoff and D. Cremers, 
A Cutting-Plane Method for Sublabel-Accurate Relaxation of Problems with Product Label Spaces, 

[J11] C Tomani and D Cremers, 
Challenger: Training with Attribution Maps, 
All: 1

[12] L. von Stumberg and D. Cremers,
DM-VIO: Delayed Marginalization Visual-Inertial Odometry,

Deep Learning in Attosecond Metrology,
Optics Express, 30(9): 15669-15684, 2022, Editor’s Pick.

[14] T Yenamandra, A Tewari, N Yang, F Bernard, C Theobalt and D Cremers,
FIRE: Fast Inverse Rendering using Directional and Signed Distance Functions, 2022.

[15] A Saroha, M Eisenberger, T Yenamandra and D Cremers,
Implicit Shape Completion via Adversarial Shape Priors,

[16] S Klenk, D Bonello, L Koestler and D Cremers,
Masked Event Modeling: Self-Supervised Pretraining for Event Cameras,

[17] 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,

[18] H. Bauermeister, E. Laude, T. Moellenhoff, M. Moeller and D. Cremers,
Lifting the convex conjugate in Lagrangian relaxations: A Tractable Approach for Continuous Markov Random Fields,

[19] P. Müller, V. Golkov, V. Tomassini and D. Cremers,
Rotation-Equivariant Deep Learning for Diffusion MRI,

[20] J. Chui, S. Klenk and D. Cremers,
Event-Based Feature Tracking in Continuous Time with Sliding Window Optimization,

[21] M. Mozes, M. Schmitt, V. Golkov, H. Schütze and D. Cremers,
Scene Graph Generation for Better Image Captioning?,

[22] M Weber, H Wang, S Qiao, J Xie, MD Collins, Y Zhu, L Yuan, D Kim, Q Yu, D Cremers and others,
DeepLab2: A TensorFlow Library for Deep Labeling,

[23] E. Laude, P. Ochs and D. Cremers,
Bregman Proximal Mappings and Bregman-Moreau Envelopes under Relative Prox-Regularity,
[J24] B. Haefner, S. Peng, A. Verma, Y. Queau and D. Cremers,  
Photometric Depth Super-Resolution,  

Deep Learning for Virtual Screening: Five Reasons to Use ROC Cost Functions,  

[J26] V. Usenko, N. Demmel, D. Schubert, J. Stueckler and D. Cremers,  
Visual-Inertial Mapping with Non-Linear Factor Recovery,  

[J27] L. von Stumberg, P. Wenzel, Q. Khan and D. Cremers,  
GN-Net: The Gauss-Newton Loss for Multi-Weather Relocalization,  

[J28] C. Sommer, Y. Sun, L. J. Guibas, D. Cremers and T. Birdal,  
From Planes to Corners: Multi-Purpose Primitive Detection in Unorganized 3D Point Clouds,  

Relocalization With Submaps: Multi-Session Mapping for Planetary Rovers Equipped With Stereo Cameras,  

ARDEA—An MAV with skills for future planetary missions,  

Accelerating in vivo fast spin echo high angular resolution diffusion imaging with an isotropic resolution in mice through compressed sensing,  

[J32] G Fabbro, V Golkov, T Kemp and D Cremers,  
Speech Synthesis and Control Using Differentiable DSP,  

[J33] I Chiotellis and D Cremers,  
Neural Online Graph Exploration,  

[J34] C Koke, C Noh and D Angelakis,  
Dirac equation on a square waveguide lattice with site-dependent coupling strengths and the gravitational Aharonov-Bohm effect,  
All: 1

List of Publications

Video Object Segmentation without Temporal Information, 

[J36] E Rodola, Z Lähner, AM. Bronstein, MM. Bronstein and J Solomon, 
Functional Maps Representation on Product Manifolds, 

[J37] H Tjaden, U Schwancke, E Schömer and D Cremers, 
A Region-based Gauss-Newton Approach to Real-Time Monocular Multiple 
Object Tracking, 

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

[J39] F. Pasa, V. Golkov, F. Pfeiffer, D. Cremers and D. Pfeiffer, 
Efficient Deep Network Architectures for Fast Chest X-Ray Tuberculosis 
Screening and Visualization, 

[J40] J. Schuchardt, V. Golkov and D. Cremers, 
Learning to Evolve, 

[J41] L. Della Libera, V. Golkov, Y. Zhu, A. Mielke and D. Cremers, 
Deep Learning for 2D and 3D Rotatable Data: An Overview of Methods, 

Augmented Autoencoders: Implicit 3D Orientation Learning for 6D Object 
Detection, 

[J43] J. Engel, V. Koltun and D. Cremers, 
Direct Sparse Odometry, 

[J44] 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 

[J45] Y. Queau, B. Durix, T. Wu, D. Cremers, F. Lauze and J.-D. Durou, 
LED-based Photometric Stereo: Modeling, Calibration and Numerical Solution, 

[J46] Y. Queau, J.-D. Durou and J.-F. Aujol, 
Normal Integration: A Survey, 
All: 1

List of Publications

[J47] Y. Queau, J.-D. Durou and J.-F. Aujol,
Variational Methods for Normal Integration,

[J48] B Bringmann, D Cremers and F Krahmer,
The homotopy method revisited: Computing solution paths of L1-regularized
problems,

[J49] J. Melou, Y. Queau, J.-D. Durou, F. Castan and D. Cremers,
Variational Reflectance Estimation from Multi-view Images,

[J50] 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.

[J51] B. T. Do, V. Golkov, G. E. Gürel and D. Cremers,
Precursor microRNA Identification Using Deep Convolutional Neural Net-
works,

[J52] E. Aljalbout, V. Golkov, Y. Siddiqui, M. Strobel and D. Cremers,
Clustering with Deep Learning: Taxonomy and New Methods,

[J53] N Mayer, E Ilg, P Fischer, C Hazirbas, D Cremers, A Dosovitskiy and T Brox,
What Makes Good Synthetic Training Data for Learning Disparity and Optical
Flow Estimation?,

[J54] H. Matsuki, L. von Stumberg, V. Usenko, J. Stueckler and D. Cremers,
Omnidirectional DSO: Direct Sparse Odometry with Fisheye Cameras,
IEEE Robotics and Automation Letters 38; Int. Conference on Intelligent Robots and

[J55] L. Ma, J. Stueckler, T. Wu and D. Cremers,
Detailed Dense Inference with Convolutional Neural Networks via Discrete
Wavelet Transform,
Aug 2018.

[J56] G. Kus chk, P. d’Angelo, D. Gaudrie, P. Reinartz and D. Cremers,
Spatially Regularized Fusion of Multiresolution Digital Surface Models,

[J57] D. Cremers, L. Leal-Taixe and R. Vidal,
Deep Learning for Computer Vision (Dagstuhl Seminar 17391),
Dagstuhl Reports, 7(9): 109-125, 2017.

[J58] Y. Kee, Y. Lee, M. Souiai, D. Cremers and J. Kim,
Sequential Convex Programming for Computing Information-Theoretic Min-
imal Partitions: Nonconvex Nonsmooth Optimization,
[J59] D Cremers,
Computer Vision für 3-D-Rekonstruktion - Vom Nischenthema zum Mainstream,

[J60] E. Rodola, L. Cosmo, M. M. Bronstein, A. Torsello and D. Cremers,
Partial Functional Correspondence,

[J61] L. Cosmo, E. Rodola, A. Albarelli, F. Memoli and D. Cremers,
Consistent Partial Matching of Shape Collections via Sparse Modeling,

[J62] Y. Queau, R. Mecca, J.-D. Durou and X. Descombes,
Photometric Stereo with Only Two Images: A Theoretical Study and Numerical Resolution,

[J63] M. Bähr, M. Breus, Y. Queau, A. S. Bouroujerdi and J.-D. Durou,
Fast and accurate surface normal integration on non-rectangular domains,

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,

[J66] E Rodola, M Möller and D Cremers,
Regularized Pointwise Map Recovery from Functional Correspondence,

[J67] J. Kukacka, V. Golkov and D. Cremers,
Regularization for Deep Learning: A Taxonomy,

[J68] J. Diebold, C. Nieuwenhuis and D. Cremers,
Midrange Geometric Interactions for Semantic Segmentation,

[J69] J. Duran, M. Möller, C. Sbert and D. Cremers,
Collaborative Total Variation: A General Framework for Vectorial TV Models,

[J70] M. Burger, G. Gilboa, M. Möller, L. Eckardt and D. Cremers,
Spectral Decompositions Using One-Homogeneous Functionals,


[J83] M. Klodt, K. Herzog, R. Töpfer and D. Cremers,
Field phenotyping of grapevine growth using dense stereo reconstruction,

[J84] M. Jaimez and J. Gonzalez-Jimenez,
Fast Visual Odometry for 3-D Range Sensors,

[J85] J. L. BC M. Jaimez and J. Gonzalez-Jimenez,
Efficient Reactive Navigation with Exact Collision Determination for 3D Robot Shapes,

[J86] J. Stueckler and S. Behnke,
Efficient Dense Rigid-Body Motion Segmentation and Estimation in RGB-D Video,

NimbRo Explorer: Semi-Autonomous Exploration and Mobile Manipulation in Rough Terrain,

[J88] D. Droeschel, M. Nieuwenhuisen, M. Beul, J. Stueckler, D. Holz and S. Behnke,
Multi-Layered Mapping and Navigation for Autonomous Micro Aerial Vehicles,

[J89] E. Rodola, A. Albarelli, D. Cremers and A. Torsello,
A Simple and Effective Relevance-based Point Sampling for 3D Shapes,

[J90] R. Mecca, E. Rodola and D. Cremers,
Realistic Photometric Stereo Using Partial Differential Irradiance Equation Ratios,

[J91] T. Möllenhoff, E. Strekalovskiy, M. Möller and D. Cremers,
The Primal-Dual Hybrid Gradient Method for Semiconvex Splittings,

Cloud-based collaborative 3D mapping in real-time with low-cost robots,

[J93] H Grimmett, R Triebel, R Paul and I Posner,
Introspective classification for robot perception,

[J94] Y. Kee, H. Lee, J. Yim, D. Cremers and J. Kim,
Entropy Minimization for Groupwise Planar Shape Co-alignment and its Applications,
[J95] T. Whelan, L. Ma, E. Bondarev, P. de With and J. McDonald, 
Incremental and Batch Planar Simplification of Dense Point Cloud Maps, 

[J96] M. Möller, M. Benning, C. Schönlieb and D. Cremers, 
Variational Depth From Focus Reconstruction, 

[J97] B. Goldluecke, M. Aubry, K. Kolev and D. Cremers, 
A Super-resolution Framework for High-Accuracy Multiview Reconstruction, 

[J98] E. Strekalovskiy, A. Chambolle and D. Cremers, 
Convex Relaxation of Vectorial Problems with Coupled Regularization, 

[J99] J. Engel, J. Sturm and D. Cremers, 
Scale-Aware Navigation of a Low-Cost Quadrocopter with a Monocular Camera, 

[J100] E. Rodola, S. R Bulo and D. Cremers, 
Robust Region Detection via Consensus Segmentation of Deformable Shapes, 

[J101] M. Schadler, J. Stueckler and S. Behnke, 
Rough Terrain Mapping and Navigation using a Continuously Rotating 2D Laser Scanner, 

[J102] J. Stueckler, B. Waldvogel, H. Schulz and S. Behnke, 
Dense Real-Time Mapping of Object-Class Semantics from RGB-D Video, 

[J103] J. Stueckler and S. Behnke, 
Multi-Resolution Surfel Maps for Efficient Dense 3D Modeling and Tracking, 

[J104] E. Rodola, A. Albarelli, F. Bergamasco and A. Torsello, 
A Scale Independent Selection Process for 3D Object Recognition in Cluttered Scenes, 

[J105] A. Torsello, A. Albarelli and E. Rodola, 
Stable and Fast Techniques for Unambiguous Compound Phase Coding, 

[J106] C. Nieuwenhuis and D. Cremers, 
Spatially Varying Color Distributions for Interactive Multi-Label Segmentation, 
[J107] C. Nieuwenhuis, E. Toeppe and D. Cremers,
A Survey and Comparison of Discrete and Continuous Multi-label Optimization Approaches for the Potts Model,

[J108] B. Goldluecke, E. Strekalovskiy and D. Cremers,
Tight Convex Relaxations for Vector-Valued Labeling,

[J109] F. Endres, J. Hess, J. Sturm, D. Cremers and W. Burgard,
3D Mapping with an RGB-D Camera,

[J110] Z. Liu, M. Beetz, D. Cremers, J. Gall, W. Li, D. Pangeric, J. Sturm and Y.-W. Tai,
Introduction to the special issue on visual understanding and applications with RGB-D cameras,

[J111] A. Albarelli, E. Rodola and A. Torsello,
Imposing Semi-local Geometric Constraints for Accurate Correspondences Selection in Structure from Motion: a Game-Theoretic Perspective,

[J112] A. Chambolle, D. Cremers and T. Pock,
A Convex Approach to Minimal Partitions,

[J113] T. Schoenemann and D. Cremers,
A Coding Cost Framework for Super-resolution Motion Layer Decomposition,

[J114] T. Schoenemann, F. Kahl, S. Masnou and D. Cremers,
A linear framework for region-based image segmentation and inpainting involving curvature penalization,

[J115] D. Cremers,
Optimal Solutions for Semantic Image Decomposition,

[J116] S. Chen, D. Cremers and R. J. Radke,
Image segmentation with one shape prior - A template-based formulation,

[J117] B. Goldluecke, E. Strekalovskiy and D. Cremers,
The Natural Total Variation Which Arises from Geometric Measure Theory,

[J118] U. Schlickewei,
On the André motive of certain irreducible symplectic varieties,
K. Kolev, T. Brox and D. Cremers,
Fast Joint Estimation of Silhouettes and Dense 3D Geometry from Multiple Images,

F. Endres, J. Hess, N. Engelhard, J. Sturm and W. Burgard,
Online-6D-SLAM für RGB-D-Sensoren,

M. Schikora, B. Neupane, S. Madhogaria, W. Koch, D. Cremers, H. Hirt, K.-H. Kogel and A. Schikora,
An image classification approach to analyze the suppression of plant immunity by the human pathogen Salmonella Typhimurium,

D. Cremers and E. Strekalovskiy,
Total Cyclic Variation and Generalizations,

J. Stueckler, R. Steffens, D. Holz and S. Behnke,
Efficient 3D Object Perception and Grasp Planning for Mobile Manipulation in Domestic Environments,

J. Stueckler, R. Steffens, D. Holz and S. Behnke,
RoboCup@Home: Demonstrating Everyday Manipulation Skills in Robo-Cup@Home,

T. Windheuser, U. Schlickewei, F. R. Schmidt and D. Cremers,
Large-Scale Integer Linear Programming for Orientation-Preserving 3D Shape Matching,

D. Cremers and K. Kolev,
Multiview Stereo and Silhouette Consistency via Convex Functionals over Convex Domains,

A. Wedel, T. Brox, T. Vaudrey, C. Rabe, U. Franke and D. Cremers,
Stereoscopic Scene Flow Computation for 3D Motion Understanding,

T. Schoenemann, S. Masnou and D. Cremers,
The Elastic Ratio: Introducing Curvature into Ratio-Based Globally Optimal Image Segmentation,

A. Sellent, M. Eisemann, B. Goldluecke, D. Cremers and M. Magnor,
Motion Field Estimation from Alternate Exposure Images,
[J130] S. Chitta, J. Sturm, M. Piccoli and W. Burgard,
Tactile Sensing for Mobile Manipulation,
*IEEE Transactions on Robotics (T-RO)*, 2011.

A Variational Approach to Vesicle Membrane Reconstruction from Fluorescence Imaging,

[J132] J. Sturm, C. Stachniss and W. Burgard,
A Probabilistic Framework for Learning Kinematic Models of Articulated Objects,
*Journal on Artificial Intelligence Research (JAIR)*, 41: 477-626, August 2011.

[J133] J. Kybic and C. Nieuwenhuis,
Bootstrap Optical Flow and Uncertainty Measure,

[J134] T. Pock, D. Cremers, H. Bischof and A. Chambolle,
Global Solutions of Variational Models with Convex Regularization,

[J135] T. Schoenemann and D. Cremers,
A Combinatorial Solution for Model-based Image Segmentation and Real-time Tracking,

[J136] U. Schlickewei,
The Hodge conjecture for self-products of certain K3 surfaces,

[J137] U. Schlickewei,
Stability of tautological vector bundles on Hilbert squares of surfaces,

Movement Directionality in Collective Migration of Germ Layer Progenitors,

[J139] L. Spinello, R. Triebel and R. Siegwart,
Multiclass Multimodal Detection and Tracking in Urban Environments,

[J140] T. Brox and D. Cremers,
On local region models and a statistical interpretation of the piecewise smooth Mumford-Shah functional,

[J141] T. Brox, B. Rosenhahn, J. Gall and D. Cremers,
Combined region- and motion-based 3D tracking of rigid and articulated objects,
[J142] K. Kolev, M. Klodt, T. Brox and D. Cremers,
Continuous Global Optimization in Multiview 3D Reconstruction,

[J143] A. Wedel, C. Rabe, H. Badino, H. Loose, U. Franke and D. Cremers,
B-Spline Modeling of Road Surfaces with an Application to Free Space Estimation,

[J144] U. Schlickewei,
Hodge classes on self-products of K3 surfaces,

[J145] E. Strekalovskiy,
Folgen von Höhenfußpunktdreiecken und ihre Grenzpunkte,

[J146] J. Sturm, C. Plagemann and W. Burgard,
Body schema learning for robotic manipulators from visual self-perception,

[J147] J. Sturm and A. Visser,
An appearance-based visual compass for mobile robots,

[J148] L. Carvalho, J. Stühmer, J. S. Bois, Y. Kalaidzidis, V. Lecaudrey and C. P. Heisenberg,
Control of convergent yolk syncytial layer nuclear movement in zebrafish,

[J149] T. Brox, O. Kleinschmidt and D. Cremers,
Efficient Nonlocal Means for Denoising of Textural Patterns,

[J150] D. Cremers,
Nonlinear Dynamical Shape Priors for Level Set Segmentation,

[J151] H. Jin, D. Cremers, D. Wang, A. Yezzi, E. Prados and S. Soatto,
3-D Reconstruction of Shaded Objects from Multiple Images Under Unknown Illumination,

[J152] C. Michel, M. T. Elm, S. D. Baranovskii, P. Thomas, W. Heimbrot, B. Goldluecke and P. J. Klar,
Influence of non-random incorporation of Mn ions on the magnetotransport properties of $Ga_{1-x}Mn_xAs$ alloys,

Tailoring the magnetoresistance of MnAs/GaAs:Mn granular hybrid nanostructures,
Monte Carlo localization in outdoor terrains using multilevel surface maps,

[J155] S. Behnke and J. Stueckler,
Hierarchical Reactive Control for Humanoid Soccer Robots,

[J156] T. Pock, M. Pock and H. Bischof,
Algorithmic Differentiation: Application to Variational Problems in Computer Vision,

[J157] B. Rosenhahn, T. Brox and J. Weickert,
Three-dimensional shape knowledge for joint image segmentation and pose tracking,

[J158] Y.-J. Kim, T. Brox, W. Feiden and J. Weickert,
Fully automated segmentation and morphometrical analysis of muscle fibre images,

[J159] D. Cremers,
Computer Lernen Sehen,

[J160] D. Cremers, M. Rousson and R. Deriche,
A review of statistical approaches to level set segmentation: integrating color, texture, motion and shape,

[J161] B. Goldluecke, I. Ihrke, C. Linz and M. Magnor,
Weighted Minimal Hypersurface Reconstruction,

Quantitative modeling of the annealing-induced changes of the magnetotransport in Ga$_{1-x}$Mn$_x$As alloys,

Supervised semantic labeling of places using information extracted from sensor data,

[J164] P. Pfaff, R. Triebel and W. Burgard,
An Efficient Extension to Elevation Maps for Outdoor Terrain Mapping and Loop Closing,
[J165] H. Andreasson, R. Triebel and A. Lilienthal,
Non-iterative Vision-based Interpolation of 3D Laser Scans,

[J166] T. Brox and J. Weickert,
Level Set Segmentation with Multiple Regions,

[J167] T. Brox and J. Weickert,
A TV flow based local scale estimate and its application to texture discrimina-
tion,

[J168] D. Cremers,
Dynamical statistical shape priors for level set based tracking,

[J169] D. Cremers, S. J. Osher and S. Soatto,
Kernel density estimation and intrinsic alignment for shape priors in level set segmentation,

[J170] D. Cremers, N. Sochen and C. Schnörr,
A multiphase dynamic labeling model for variational recognition-driven image segmentation,

[J171] S. Manay, D. Cremers, B.-W. Hong, A. Yezzi and S. Soatto,
Integral invariants for shape matching,

[J172] N. Papenberg, A. Bruhn, T. Brox, S. Didas and J. Weickert,
Highly accurate optic flow computation with theoretically justified warping,

[J173] T. Brox, J. Weickert, B. Burgeth and P. Mrazek,
Nonlinear structure tensors,

[J174] M. Breus, T. Brox, A. Bürgel, T. Sonar and J. Weickert,
Numerical aspects of TV flow,

[J175] B. Rosenhahn, T. Brox, U. G. Kersting, A. W. Smith, J. Gurney and R. Klette,
A system for marker-less motion capture,
*Künstliche Intelligenz*, 45-51, jan 2006.

[J176] C. Michel, S. D. Baranovskii, P. J. Klar, P. Thomas and B. Goldluecke,
Strong non-Arrhenius temperature dependence of the resistivity in the regime of traditional band transport,
All: 1

List of Publications

[J177] D. Cremers and S. Soatto,
Motion Competition: A variational framework for piecewise parametric motion segmentation,

Spin-dependent localization effects in GaAs:Mn/MnAs granular paramagnetic-ferromagnetic hybrids at low temperatures,

[J179] G. Steidl, J. Weickert, T. Brox, P. Mrazek and M. Welk,
On the equivalence of soft wavelet shrinkage, total variation diffusion, total variation regularization, and SIDEs,

[J180] D. Cremers, T. Kohlberger and C. Schnörr,
Shape Statistics in Kernel Space for Variational Image Segmentation,

[J181] D. Cremers and C. Schnörr,
Statistical shape knowledge in variational motion segmentation,

[J182] J. Keuchel, C. Schnörr, C. Schellewald and D. Cremers,
Binary partitioning, perceptual grouping, and restoration with semidefinite programming,

[J183] D. Cremers and A. V. M. Herz,
Travelling waves of exitation in neural field models: Equivalence of rate descriptions and integrate-and-fire dynamics,

[J184] D. Cremers, F. Tischhäuser, J. Weickert and C. Schnörr,
Diffusion Snakes: Introducing statistical shape knowledge into the Mumford–Shah functional,

[J185] D. Cremers and A. Mielke,
Flow equations for the Héon-Heiles Hamiltonian,

Books

[B1] E: D. Cremers, I. Reid, H. Saito and M.-S. Yang,
*Computer Vision: ACCV 2014*,
Springer 2014.

[B2] J. Sturm,
*Approaches to Probabilistic Model Learning for Mobile Manipulation Robots*,
Springer 2013.

A. Wedel and D. Cremers, Stereoscopic Scene Flow for 3D Motion Analysis, Springer 2011.


Book Chapters


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.

[BC6] M. Klodt, F. Steinbruecker and D. Cremers, 
Moment Constraints in Convex Optimization for Segmentation and Tracking, 

A Game-Theoretic Approach to Pairwise Clustering and Matching, 

[BC8] J. Sturm, C. Plagemann and W. Burgard, 
Body Schema Learning, 

[BC9] M. Schikora, W. Koch, R. L. Streit and D. Cremers, 
A Sequential Monte Carlo Method for Multi-Target Tracking with the Intensity Filter, 

[BC10] D. Cremers, T. Pock, K. Kolev and A. Chambolle, 
Convex Relaxation Techniques for Segmentation, Stereo and Multiview Reconstruction, 

[BC11] D. Cremers, 
Image Segmentation with Shape Priors: Explicit Versus Implicit Representations, 

[BC12] A. Chambolle, V. Caselles, D. Cremers, M. Novaga and T. Pock, 
An Introduction to Total Variation for Image Analysis, 

[BC13] T. Brox, B. Rosenhahn and D. Cremers, 
Contours, optic flow, and prior knowledge: cues for capturing 3D human motion in videos, 

Tracking clothed people, 

[BC15] D. Cremers and M. Rousson, 
Efficient kernel density estimation of shape and intensity priors for level set segmentation, 
Adaptive structure tensors and their applications,

[BC17] D. Cremers and T. Kohlberger,
Probabilistic kernel PCA and its application to statistical shape modeling and inference,

[BC18] S. Manay, D. Cremers, B. W. Hong, A. Yezzi and S. Soatto,
Integral Invariants and Shape Matching,
Statistical analysis of shapes (modeling and simulation in science, engineering and technology), Birkhauser, 137-167, May 2006.

[BC19] J. Weickert, A. Bruhn, T. Brox and N. Papenberg,
A survey on variational optic flow methods for small displacements,

PDEs for tensor image processing,

Diffusion filters and wavelets: What can they learn from each other?,

[BC22] M. Bergtholdt, D. Cremers and C. Schnörr,
Variational segmentation with shape priors,

Conference and Workshop Papers

[C1] F Hofherr, L Koestler, F Bernard and D Cremers,
Neural Implicit Representations for Physical Parameter Inference from a Single Video,

[C2] L Sang, B Haefner, X Zuo and D Cremers,
High-Quality RGB-D Reconstruction via Multi-View Uncalibrated Photometric Stereo and Gradient-SDF,
IEEE Winter Conference on Applications of Computer Vision (WACV), Hawai, USA, January 2023.

[C3] L Härenstam-Nielsen, N Zeller and D Cremers,
Semidefinite Relaxations for Robust Multiview Triangulation,
[C4] S Weber, N Demmel, T Chon Chan and D Cremers,
**Power Bundle Adjustment for Large-Scale 3D Reconstruction**,  

[C5] F Wimbauer, N Yang, C Rupprecht and D Cremers,
**Behind the Scenes: Density Fields for Single View Reconstruction**,  

[C6] K Guirguis, J Meier, G Eskandar, M Kayser, B Yang and J Beyerer,
**NIFF: Alleviating Forgetting in Generalized Few-Shot Object Detection via Neural Instance Feature Forging**,  

[C7] C Koke,
**Limitless Stability for Graph Convolutional Networks**,  

[C8] V Ehlm, D Cremers and F Bernard,
**Non-Separable Multi-Dimensional Network Flows for Visual Computing**,  

*Proceedings of the IEEE/CVF Conference on Computer Vision and Pattern Recognition (CVPR)*, June 2022.

[C10] M. Eisenberger, A. Toker, L. Leal-Taixe, F. Bernard and D. Cremers,
**A Unified Framework for Implicit Sinkhorn Differentiation**,  
*IEEE International Conference on Computer Vision and Pattern Recognition (CVPR)*, 2022.

[C11] C Tomani, D Cremers and F Buettner,
**Parameterized Temperature Scaling for Boosting the Expressive Power in Post-Hoc Uncertainty Calibration**,  
*European Conference on Computer Vision (ECCV)*, 2022.

[C12] J. Veraart and 100 coauthors,
**A data-driven variability assessment of brain diffusion MRI preprocessing pipelines**,  

[C13] C Sommer, L Sang, D Schubert and D Cremers,
**Gradient-SDF: A Semi-Implicit Surface Representation for 3D Reconstruction**,  
*IEEE Conference on Computer Vision and Pattern Recognition (CVPR)*, 2022.

[C14] Z Ye, T Yenamandra, F Bernard and D Cremers,
**Joint Deep Multi-Graph Matching and 3D Geometry Learning from Inhomogeneous 2D Image Collections**,  
*AAAI*, 2022.
[C15] D Muhle, L Koestler, N Demmel, F Bernard and D Cremers,
    The Probabilistic Normal Epipolar Constraint for Frame-To-Frame Rotation
    Optimization under Uncertain Feature Positions,
    *IEEE Conference on Computer Vision and Pattern Recognition (CVPR)*, 2022.

[C16] F Wimbauer, S Wu and C Rupprecht,
    De-rendering 3D Objects in the Wild,
    *IEEE Conference on Computer Vision and Pattern Recognition (CVPR)*, 2022.

[C17] F Müller, Q Khan and D Cremers,
    Lateral Ego-Vehicle Control Without Supervision Using Point Clouds,

[C18] L Hang, Q Khan, V Tresp and D Cremers,
    Biologically Inspired Neural Path Finding,

[C19] D Das, Q Khan and D Cremers,
    Ventriloquist-Net: Leveraging Speech Cues for Emotive Talking Head Generation,

[C20] L Koestler, D Grittner, M Moeller, D Cremers and Z Lähner,
    Intrinsic Neural Fields: Learning Functions on Manifolds,
    *European Conference on Computer Vision (ECCV)*, 2022.

[C21] AF Villacampa, LO Maza, J Civera and R Triebel,
    A Model for Multi-View Residual Covariances Based on Perspective Deformation,

[C22] E Aljalbout, M Ulmer and R Triebel,
    Seeking Visual Discomfort: Curiosity-Driven Representations for Reinforcement Learning,

[C23] M Stoiber, M Sundermeyer and R Triebel,
    Iterative Corresponding Geometry: Fusing Region and Depth for Highly Efficient 3D Tracking of Textureless Objects,
    *IEEE Conference on Computer Vision and Pattern Recognition (CVPR)*, 2022.

[C24] W Boerdijk, M Durner, M Sundermeyer and R Triebel,
    Towards Robust Perception of Unknown Objects in the Wild,

[C25] M Lyssenko, CD Gladisch, C Heinzemann, M Woehrle and R Triebel,
    Towards Safety-Aware Pedestrian Detection in Autonomous Systems,

[C26] M Knauer, M Denninger and R Triebel,
    RECALL: Rehearsal-free Continual Learning for Object Classification,
All: 1

List of Publications

[C27] D Winkelbauer, B Bäm, N Thuerey and R Triebel,
A Two-stage Learning Architecture that Generates High-Quality Grasps for a Multi-Fingered Hand,

[C28] J Feng, J Lee, M Durner and R Triebel,
Bayesian Active Learning for Sim-to-Real Robotic Perception,

[C29] L Meyer, KH. Strobl and R Triebel,
The Probabilistic Robot Kinematics Model and its Application to Sensor Fusion,

[C30] R Giubilato, W Stürzl, A Wedler and R Triebel,
Challenges of SLAM in extremely unstructured environments: the DLR Planetary Stereo, Solid-State LiDAR, Inertial Dataset,

[C31] M Gladkova, N Korobov, N Demmel, A Osep, L Leal-Taixe and D Cremers,
DirectTracker: 3D Multi-Object Tracking Using Direct Image Alignment and Photometric Bundle Adjustment,

[C32] HHH Hsu, Y Shen, C Tomani and D Cremers,
What Makes Graph Neural Networks Miscalibrated?,
*NeurIPS*, 2022.

[C33] Y Shen and D Cremers,
Deep Combinatorial Aggregation,
*NeurIPS*, 2022.

[C34] HHH Hsu, Y Shen and D Cremers,
A Graph Is More Than Its Nodes: Towards Structured Uncertainty-Aware Learning on Graphs,

[C35] C Koke and G Kutyniok,
Graph Scattering beyond Wavelet Shackles,

[C36] B. Haefner, S. Green, A. Oursland, D. Andersen, M. Goesele, D. Cremers, R. Newcombe and T. Whelan,
Recovering Real-world Reflectance Properties and Shading from HDR Imagery,

[C37] T Frerix, D Kochkov, J Smith, D Cremers, M Brenner and S Hoyer,
Variational Data Assimilation with a Learned Inverse Observation Operator,
M. Eisenberger, D. Novotny, G. Kerchenbaum, P. Labatut, N. Neverova, D. Cremers and
A. Vedaldi,
NeuroMorph: Unsupervised Shape Interpolation and Correspondence in One
Go,
IEEE International Conference on Computer Vision and Pattern Recognition (CVPR),
2021.

M. C. Mukkamala, F. Westerkamp, E. Laude, D. Cremers and P. Ochs,
Bregman Proximal Gradient Algorithms for Deep Matrix Factorization,
Elmoataz, Abderrahim, Fadili, Jalal, Quéau, Yvain, Rabin, Julien, Simon and Loïc(Eds.),
Scale Space and Variational Methods in Computer Vision, Cham, Springer International

Z. Ye, B. Haefner, Y. Queau, T. Möllenhoff and D. Cremers,
Sublabel-Accurate Multilabeling Meets Product Label Spaces,
DAGM German Conference on Pattern Recognition (GCPR), 2021.

F. Wimbauer, N. Yang, L. von Stumberg, N. Zeller and D Cremers,
MonoRec: Semi-Supervised Dense Reconstruction in Dynamic Environments
from a Single Moving Camera,

T Yenamandra, A Tewari, F Bernard, HP Seidel, M Elgharib, D Cremers and C Theobalt,
i3DMM: Deep Implicit 3D Morphable Model of Human Heads,
Proceedings of the IEEE/CVF Conference on Computer Vision and Pattern Recognition
(CVPR), June 2021, Oral Presentation.

M Gao, Z Lähner, J Thunberg, D Cremers and F Bernard,
Isometric Multi-Shape Matching,
IEEE Conference on Computer Vision and Pattern Recognition (CVPR), 2021, Oral Pre-
sentation.

M Naeyaert, V Golkov, D Cremers, J Sijbers and M Verhoye,
Faster and better HARDI using FSE and holistic reconstruction,
International Society for Magnetic Resonance in Medicine (ISMRM) Annual Meeting,
2021.

P. Müller, V. Golkov, V. Tomassini and D. Cremers,
Rotation-Equivariant Deep Learning for Diffusion MRI (short version),
International Society for Magnetic Resonance in Medicine (ISMRM) Annual Meeting,
2021.

Q. Khan, P. Wenzel and D. Cremers,
Self-Supervised Steering Angle Prediction for Vehicle Control Using Visual
Odometry,
International Conference on Artificial Intelligence and Statistics (AISTATS), 2021.

M Gladkova, R Wang, N Zeller and D Cremers,
Tight Integration of Feature-based Relocalization in Monocular Direct Visual
Odometry,
[C48] 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.

[C49] P. Wenzel, T. Schön, L. Leal-Taixe and D. Cremers,
Vision-Based Mobile Robotics Obstacle Avoidance With Deep Reinforcement Learning,

[C50] M Sewtz, X Luo, J Landgraf, T Bodenmüller and R Triebel,
Robust Approaches for Localization on Multi-camera Systems in Dynamic Environments,

[C51] D Winkelbauer, M Denninger and R Triebel,
Learning to Localize in New Environments from Synthetic Training Data,

[C52] H Lehner, MJ. Schuster, T Bodenmüller and R Triebel,
Exploration of Large Outdoor Environments Using Multi-Criteria Decision Making,

[C53] W Boerdijk, M Sundermeyer, M Durner and R Triebel,
“What’s This? Learning to Segment Unknown Objects from Manipulation Sequences,

[C54] M Sundermeyer, A Mousavian, R Triebel and D Fox,
Contact-GraspNet: Efficient 6-DoF Grasp Generation in Cluttered Scenes,

[C55] I Ballester, A Fontan, J Civera, KH. Strobl and R Triebel,
DOT: Dynamic Object Tracking for Visual SLAM,

[C56] N Demmel, C Sommer, D Cremers and V Usenko,
Square Root Bundle Adjustment for Large-Scale Reconstruction,
*IEEE Conference on Computer Vision and Pattern Recognition (CVPR)*, 2021.

[C57] C Tomani and F Buettner,
Towards Trustworthy Predictions from Deep Neural Networks with Fast Adversarial Calibration,
*InThirty-FifthAAAIConferenceonArtificialIntelligence(AAAI-2021)*, 2021.
All: 1

List of Publications

[C58] C Tomani, S Gruber, ME Erdem, D Cremers and F Buettner,
Post-hoc Uncertainty Calibration for Domain Drift Scenarios,

[C59] M Lyssenko, C Gladisch, C Heinzemann, M Woehrle and R Triebel,
From Evaluation to Verification: Towards Task-Oriented Relevance Metrics for Pedestrian Detection in Safety-Critical Domains,

[C60] N Demmel, D Schubert, C Sommer, D Cremers and V Usenko,
Square Root Marginalization for Sliding-Window Bundle Adjustment,
IEEE International Conference on Computer Vision (ICCV), 2021.

[C61] MW Wudenka, MG Müller, N Demmel, A Wedler, R Triebel, D Cremers and W Stuerzl,
Towards Robust Monocular Visual Odometry for Flying Robots on Planetary Missions,

[C62] S Klenk, J Chui, N Demmel and D Cremers,
TUM-VIE: The TUM Stereo Visual-Inertial Event Dataset,

[C63] L Koestler, N Yang, N Zeller and D Cremers,
TANDEM: Tracking and Dense Mapping in Real-time using Deep Multi-view Stereo,
Conference on Robot Learning (CoRL), 2021, 3DV’21 Best Demo Award.

[C64] S Weber, N Demmel and D Cremers,
Multidirectional Conjugate Gradients for Scalable Bundle Adjustment,
German Conference on Pattern Recognition (GCPR), 2021, Oral Presentation.

[C65] J Lee, J Feng, M Humt, MG Müller and R Triebel,
Trust Your Robots! Predictive Uncertainty Estimation of Neural Networks with Sparse Gaussian Processes,
5th Conference on Robot Learning (CoRL), November 2021.

[C66] D Schnaus, J Lee and R Triebel,
Kronecker-Factored Optimal Curvature,

[C67] HC Liao, R Giubilato, W Stürzl and R Triebel,
Learning-Based Matching of 3D Submaps from Dense Stereo for Planetary-Like Environments,
International Conference on Advanced Robotics (ICAR), 2021.

[C68] R Giubilato, M Vayugundla, W Stürzl, M Schuster, A Wedler and R Triebel,
Multi-Modal Loop Closing in Unstructured Planetary Environments with Visually Enriched Submaps,
All: 1

List of Publications

[C69] M Durner, W Boerdijk, M Sundermeyer, W Friedl, ZC Marton and R Triebel,
Unknown Object Segmentation from Stereo Images,

[C70] M Lyssenko, C Gladisch, C Heinzemann, M Woehrle and R Triebel,
Instance Segmentation in CARLA: Methodology and Analysis for Pedestrian-oriented Synthetic Data Generation in Crowded Scenes,
2021 IEEE/CVF International Conference on Computer Vision Workshops (ICCVW),
IEEE, 988-996, 2021.

[C71] MG Müller, M Durner, A Gawel, W Stürzl, R Triebel and R Siegwart,
A Photorealistic Terrain Simulation Pipeline for Unstructured Outdoor Environments,
2021 IEEE/RSJ International Conference on Intelligent Robots and Systems (IROS),
2021.

[C72] Y Wang, Y Shen and D Cremers,
Explicit pairwise factorized graph neural network for semi-supervised node classification,
UAI, 2021.

[C73] V Ehm, D Cremers and F Bernard,
Shortest Paths in Graphs with Matrix-Valued Edges: Concepts, Algorithm and Application to 3D Multi-Shape Analysis,

[C74] V Borisov, J Meier, J van den Heuvel, H Jalali and G Kasneci,
A Robust Unsupervised Ensemble of Feature-Based Explanations using Restricted Boltzmann Machines,

[C75] M Weber, J Xie, M Collins, Y Zhu, P Voigtländer, H Adam, B Green, A Geiger, B Leibe, D Cremers and others,
STEP: Segmenting and Tracking Every Pixel,

[C76] M Aygun, A Osep, M Weber, M Maximov, C Stachniss, J Behley and L Leal-Taixe,
4D Panoptic LiDAR Segmentation,

[C77] 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,

[C78] L. Sang, B. Haefner and D. Cremers,
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.
[C79] T. Frerix, M. Niesner and D. Cremers,
Homogeneous Linear Inequality Constraints for Neural Network Activations,

[C80] R. Wang, N. Yang, J. Stueckler and D. Cremers,
DirectShape: Photometric Alignment of Shape Priors for Visual Vehicle Pose and Shape Estimation,

[C81] 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.

[C82] M. Eisenberger and D. Cremers,
Hamiltonian Dynamics for Real-World Shape Interpolation,
European Conference on Computer Vision (ECCV), 2020, Spotlight Presentation.

[C83] M. Eisenberger, A. Toker, L. Leal-Taixe and D. Cremers,
Deep Shells: Unsupervised Shape Correspondence with Optimal Transport,

[C84] S. Weiss, R. Maier, D. Cremers, R. Westermann and N. Thürey,
Correspondence-Free Material Reconstruction using Sparse Surface Constraints,

[C85] C. Sommer, V. Usenko, D. Schubert, N. Demmel and D. Cremers,
Efficient Derivative Computation for Cumulative B-Splines on Lie Groups,

[C86] N. Yang, L. von Stumberg, R. Wang and D. Cremers,
D3VO: Deep Depth, Deep Pose and Deep Uncertainty for Monocular Visual Odometry,

[C87] A. Fontan-Villacampa, J. Civera and R. Triebel,
Information-Driven Direct RGB-D Odometry,

Multi-path Learning for Object Pose Estimation Across Domains,

[C89] J. Wenger, H. Kjellström and R. Triebel,
Non-Parametric Calibration for Classification,
International Conference on Artificial Intelligence and Statistics (AISTATS), 2020.
Visual-Inertial Telepresence for Aerial Manipulation,  

[C91] Z. Ye, T. Möllenhoff, T. Wu and D. Cremers,  
Optimization of Graph Total Variation via Active-Set-based Combinatorial Reconditioning,  
International Conference on Artificial Intelligence and Statistics (AISTATS), 2020.

[C92] J Lee, M Humt, J Feng and R Triebel,  
Estimating Model Uncertainty of Neural Networks in Sparse Information Form,  

[C93] J Liu, I Chiotellis, R Triebel and D Cremers,  
Effective Version Space Reduction for Convolutional Neural Networks,  
European Conference on Machine Learning and Data Mining (ECML-PKDD), 2020.

[C94] M Denninger and R Triebel,  
3D Scene Reconstruction from a Single Viewport,  

[C95] 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.

[C96] M Sewtz, T Bodenmüller and R Triebel,  
Robust MUSIC-Based Sound Source Localization in Reverberant and Echoic Environments,  

[C97] CL Gentili, M Vayugundla, R Giubilato, W Stürzl, TA. Vidal-Calleja and R Triebel,  
Gaussian Process Gradient Maps for Loop-Closure Detection in Unstructured Planetary Environments,  

[C98] C. Sommer, Y. Sun, E. Bylow and D. Cremers,  
PrimiTect: Fast Continuous Hough Voting for Primitive Detection,  

[C99] L. Koestler, N. Yang, R. Wang and D. Cremers,  
Learning Monocular 3D Vehicle Detection without 3D Bounding Box Labels,  

[C100] 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,  

[C101] B Holzschuh, Z Lähner and D Cremers,  
Simulated Annealing for 3D Shape Correspondence,  
[C102] M Aygün, Z Lähner and D Cremers,
Unsupervised Dense Shape Correspondence using Heat Kernels,

[C103] W Boerdijk, M Sundermeyer, M Durner and R Triebel,
Self-Supervised Object-in-Gripper Segmentation from Robotic Motions,
Conference on Robot Learning (CoRL), 2020.

[C104] F Schiel, A Hagengruber, J Vogel and R Triebel,
Incremental learning of EMG-based control commands using Gaussian Pro-
cesses,
Conference on Robot Learning (CoRL), 2020.

[C105] M Stoiber, M Pfanne, K Strobl, R Triebel and A Albu-Schaeffer,
A Sparse Gaussian Approach to Region-Based 6DoF Object Tracking,
Asian Conference on Computer Vision, 2020, Best Paper Award.

[C106] L Meyer, K Strobl and R Triebel,
Robust Vision-Based Pose Correction for a Robotic Manipulator using Active
Markers,

[C107] N Demmel, M Gao, E Laude, T Wu and D Cremers,
Distributed Photometric Bundle Adjustment,

[C108] L. von Stumberg, P. Wenzel, N. Yang and D. Cremers,
LM-Reloc: Levenberg-Marquardt Based Direct Visual Relocalization,

[C109] A Dekel, L Härenstam-Nielsen and S Caccamo,
Optimal least-squares solution to the hand-eye calibration problem,
Proceedings of the IEEE/CVF Conference on Computer Vision and Pattern Recognition
(CVPR), June 2020.

[C110] M Weber, J Luiten and B Leibe,
Single-Shot Panoptic Segmentation,

[C111] A Osep, P Voigtlaender, M Weber, J Luiten and B Leibe,
4D generic video object proposals,

Lähner, K. Li, O. Litany, T. Remez, E. Rodola, B. C. Russell, Y. Sahillioglu, R. Slossberg,
G. K. L. Tam, M. Vestner, Z. Wu and J. Yang,
Shape Correspondence with Isometric and Non-Isometric Deformations,
Silvia Biasotti, Guillaume Lavoué and Remco C. Veltkamp(Eds.), 12th Eurographics Work-
shop on 3D Object Retrieval, 3DOR@Eurographics 2019, Genoa, Italy, May 5-6, 2019,
[C113] B. Haefner, Y. Queau and D. Cremers,  
Photometric Segmentation: Simultaneous Photometric Stereo and Masking,  
*International Conference on 3D Vision (3DV)*, Quebec City, Canada, September 2019, Spotlight Presentation.

[C114] B. Haefner, Z. Ye, M. Gao, T. Wu, Y. Queau and D. Cremers,  
Variational Uncalibrated Photometric Stereo under General Lighting,  
*IEEE/CVF International Conference on Computer Vision (ICCV)*, Seoul, South Korea, October 2019.

[C115] T. Yenamandra, F. Bernard, J. Wang, F. Mueller and C. Theobalt,  
Convex Optimisation for Inverse Kinematics,  

[C116] 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.

[C117] P. Swazinna, V. Golkov, I. Lipp, E. Sgarlata, V. Tomassini, D. K. Jones and D. Cremers,  
Negative-Unlabeled Learning for Diffusion MRI,  

[C118] D. Schubert, N. Demmel, L. von Stumberg, V. Usenko and D. Cremers,  
Rolling-Shutter Modelling for Visual-Inertial Odometry,  

[C119] M. Eisenberger, Z. Lähner and D. Cremers,  
Divergence-Free Shape Correspondence by Deformation,  

[C120] E. Bylow, R. Maier, F. Kahl and C. Olsson,  
Combining Depth Fusion and Photometric Stereo for Fine-Detailed 3D Models,  
*Scandinavian Conference on Image Analysis (SCIA)*, Norrköping, Sweden, June 2019, Oral Presentation, received the SCIA 2019 Honourable Mention award.

[C121] E. Laude, T. Wu and D. Cremers,  
Optimization of Inf-Convolution Regularized Nonconvex Composite Problems,  
*International Conference on Artificial Intelligence and Statistics (AISTATS)*, 2019.

[C122] T. Möllenhoff and D. Cremers,  
Lifting Vectorial Variational Problems: A Natural Formulation based on Geometric Measure Theory and Discrete Exterior Calculus,  
*IEEE Conference on Computer Vision and Pattern Recognition (CVPR)*, 2019, Oral Presentation.

[C123] T. Möllenhoff and D. Cremers,  
Flat Metric Minimization with Applications in Generative Modeling,  
[C124] T. Frerix and J. Bruna,  
**Approximating Orthogonal Matrices with Effective Givens Factorization**,  

[C125] Q. Khan, P. Wenzel, D. Cremers and L. Leal-Taixe,  
**Towards Generalizing Sensorimotor Control Across Weather Conditions**,  

[C126] E.Y. Puang, P. Lehner, Z.C. Marton, M. Durner, R. Triebel and A. Albu-Schäffer,  
**Visual Repetition Sampling for Robot Manipulation Planning**,  

[C127] M. Moeller, T. Möllenhoff and D. Cremers,  
**Controlling Neural Networks via Energy Dissipation**,  
*International Conference on Computer Vision (ICCV)*, Seoul, South Korea, 10 2019.

[C128] E. Jung, N. Yang and D. Cremers,  
*Conference on Robot Learning (CoRL)*, 2019, Full Oral Presentation.

[C129] 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**,  

[C130] P. Brechet, T. Wu, T. Möllenhoff and D. Cremers,  
**Informative GANs via Structured Regularization of Optimal Transport**,  

[C131] F. Steidle, W. Stürzl and R. Triebel,  
**Visual-inertial sensor fusion with a bio-inspired polarization compass for navigation of MAVs**,  

**Introspective Robot Perception using Smoothed Predictions from Bayesian Neural Networks**,  

[C133] K Pfeiffer, A Hermans, I Sarandi, M Weber and B Leibe,  
**Visual person understanding through multi-task and multi-dataset learning**,  
*German Conference on Pattern Recognition (GCPR)*, 551-566, 2019.

[C134] R. Henschel, L. Leal-Taixe, D. Cremers and B. Rosenhahn,  
**Fusion of Head and Full-Body Detectors for Multi-Object Tracking**,  

[C135] C. Sommer and D. Cremers,  
**Joint Representation of Primitive and Non-primitive Objects for 3D Vision**,  
All: 1

List of Publications

[C136] C. Hazirbas, S. G. Soyer, M. C. Staab, L. Leal-Taixe and D. Cremers,
Deep Depth From Focus,
Asian Conference on Computer Vision (ACCV), December 2018.

[C137] B. Haefner, Y. Queau, T. Möllenhoff and D. Cremers,
Fight ill-posedness with ill-posedness: Single-shot variational depth super-resolution from shading,
IEEE/CVF Conference on Computer Vision and Pattern Recognition (CVPR), 2018,
Spotlight Presentation.

Discrete-Continuous ADMM for Transductive Inference in Higher-Order MRFs,

[C139] C Domokos, FR. Schmidt and D Cremers,
MRF Optimization with Separable Convex Prior on Partially Ordered Labels,

[C140] 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.

[C141] 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.

[C142] R Scona, M Jaimez, YR. Petillot, M Fallon and D Cremers,
StaticFusion: Background Reconstruction for Dense RGB-D SLAM in Dynamic Environments,

[C143] V. Golkov, A. Vasilev, F. Pasa, I. Lipp, W. Boubaker, E. Sgarlata, F. Pfeiffer, V. Tomassini, D. K. Jones and D. Cremers,
q-Space Novelty Detection in Short Diffusion MRI Scans of Multiple Sclerosis,

q-Space Deep Learning for Alzheimer’s Disease Diagnosis: Global Prediction and Weakly-Supervised Localization,
[C145] 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.

[C146] T. Frerix, T. Möllenhoff, M. Moeller and D. Cremers, 
**Proximal Backpropagation,** 

**Semantic Labeling of Indoor Environments from 3D RGB Maps,** 

[C148] L. von Stumberg, V. Usenko and D. Cremers, 
**Direct Sparse Visual-Inertial Odometry using Dynamic Marginalization,** 

[C149] D. Schubert, T. Goll, N. Demmel, V. Usenko, J. Stueckler and D. Cremers, 
**The TUM VI Benchmark for Evaluating Visual-Inertial Odometry,** 

[C150] X. Gao, R. Wang, N. Demmel and D. Cremers, 
**LDSO: Direct Sparse Odometry with Loop Closure,** 

[C151] Z. Lähner, D. Cremers and T. Tung, 
**DeepWrinkles: Accurate and Realistic Clothing Modeling,** 
*European Conference on Computer Vision (ECCV)*, September 2018, **Oral Presentation.**

[C152] 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.**

[C153] D. Schubert, N. Demmel, V. Usenko, J. Stueckler and D. Cremers, 
**Direct Sparse Odometry With Rolling Shutter,** 
*European Conference on Computer Vision (ECCV)*, September 2018, **Oral Presentation.**

[C154] V. Usenko, N. Demmel and D. Cremers, 
**The Double Sphere Camera Model,** 

[C155] M. Sundermeyer, Z. Marton, M. Durner, M. Brucker and R. Triebel, 
**Implicit 3D Orientation Learning for 6D Object Detection from RGB Images,** 
*European Conference on Computer Vision (ECCV)*, September 2018, **Best Paper Award.**

[C156] M. Denninger and R. Triebel, 
**Persistent Anytime Learning of Objects from Unseen Classes,** 
[C157] I. Grixa, P. Schulz, W. Stürzl and R. Triebel,
Appearance-Based Along-Route Localization for Planetary Missions,

[C158] I. Chiotellis, F. Zimmermann, D. Cremers and R. Triebel,
Incremental Semi-Supervised Learning from Streams for Object Classification,

[C159] V. Estellers, F. Schmidt and D. Cremers,
Robust Fitting of Subdivision Surfaces for Smooth Shape Analysis,
*Proc. of the Int. Conference on 3D Vision (3DV)*, September 2018, Received the Best Paper Award at 3DV 2018.

6DoF Pose Estimation for Industrial Manipulation based on Synthetic Data,

[C161] C. Nissler, M. Durner, Z.-C. Marton and R. Triebel,
Simultaneous Calibration and Mapping,

[C162] 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.

[C163] M. Benning, M. Möller, R. Z. Nossek, M. Burger, D. Cremers and G. Gilboa,
Nonlinear Spectral Image Fusion,

[C164] D. Bender, W. Koch and D. Cremers,
Map-based drone homing using shortcuts,

[C165] G. Kuschk, A. Bozic and D. Cremers,
Real-time variational stereo reconstruction with applications to large-scale dense SLAM,

[C166] M. Jaimez, C. Kerl, J. Gonzalez-Jimenez and D. Cremers,
Fast Odometry and Scene Flow from RGB-D Cameras based on Geometric Clustering,
*Proc. of the IEEE Int. Conf. on Robotics and Automation (ICRA)*, 2017.
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,

L. Ma, J. Stueckler, C. Kerl and D. Cremers,
"Multi-View Deep Learning for Consistent Semantic Mapping with RGB-D
Cameras,
International Conference on Intelligent Robots and Systems (IROS), Vancouver, Canada,
Sep 2017.

M. Vestner, R. Litman, E. Rodola, A. Bronstein and D. Cremers,
"Product Manifold Filter: Non-Rigid Shape Correspondence via Kernel Density
Estimation in the Product Space,

M. Dzitsiuk, J. Sturm, R. Maier, L. Ma and D. Cremers,
"De-noising, Stabilizing and Completing 3D Reconstructions On-the-go using
Plane Priors,

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.

F. Walch, C. Hazirbas, L. Leal-Taixe, T. Sattler, S. Hilsenbeck and D. Cremers,
"Image-based localization using LSTMs for structured feature correlation,

J.C. Peeken, C. Knie, V. Golovk, K. Kessel, F. Pasa, Q. Khan, M. Seroglazov, J. Kukacka,
T. Goldberg, L. Richter, J. Reeb, B. Rost, F. Pfeiffer, D. Cremers, F. Niesslin and S.E.
Combs,
"Establishment of an interdisciplinary workflow of machine learning-based Radionics in sarcoma patients,

Y. Queau, M. Piznenberg, J.-D. Durou and D. Cremers,
"Microgeometry capture and RGB albedo estimation by photometric stereo
without demosaicing,
International Conference on Quality Control by Artificial Vision (QCAV), 2017.

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

M. Slavcheva, M. Baust, D. Cremers and S. Ilic,
"KillingFusion: Non-rigid 3D Reconstruction without Correspondences,
[C177] V. Usenko, L. von Stumberg, A. Pangeric and D. Cremers,
Real-Time Trajectory Replanning for MAVs using Uniform B-splines and a
3D Circular Buffer,
*International Conference on Intelligent Robots and Systems (IROS)*, Vancouver, Canada,
Sep 2017, Best Paper Award - Finalist ()

[C178] Y. Queau, T. Wu, F. Lauze, J.-D. Durou and D. Cremers,
A Non-Convex Variational Approach to Photometric Stereo under Inaccurate
Lighting,
*IEEE Conference on Computer Vision and Pattern Recognition (CVPR)*, Honolulu, USA,
2017.

[C179] T. Meinhardt, M. Moeller, C. Hazirbas and D. Cremers,
Learning Proximal Operators: Using Denoising Networks for Regularizing Inverse Imaging Problems,

One-Shot Video Object Segmentation,
*IEEE Conference on Computer Vision and Pattern Recognition (CVPR)*, Honolulu, USA,
2017.

[C181] Y. Queau, J. Melou, J.-D. Durou and D. Cremers,
Dense Multi-view 3D-reconstruction Without Dense Correspondences,

[C182] K. Kurach, S. Gelly, M. Jastrzebski, P. Haeusser, O. Teytaud, D. Vincent and O. Bousquet,
Better Text Understanding Through Image-To-Text Transfer,

[C183] P. Haeusser, T. Frerix, A. Mordvintsev and D. Cremers,
Associative Domain Adaptation,

[C184] Y. Queau, M. Pizenberg, D. Cremers and J.-D. Durou,
Stereophotometrie microscopique sans demosaïquage,
*GRETSI*, Juan-les-Pins, USA, 2017.

Efficient Deformable Shape Correspondence via Kernel Matching,
*International Conference on 3D Vision (3DV)*, Qingdao, China, October 2017, Oral Presentation.

[C186] R. Maier, R. Schaller and D. Cremers,
Efficient Online Surface Correction for Real-time Large-Scale 3D Reconstruction,

[C187] J. Geiping, H. Dirks and D. Cremers,
Multiframe Motion Coupling for Video Super Resolution,
All: 1

List of Publications

[C188] V. Golyanik, K. Kim, R. Maier, M. Niessner, D. Stricker and J. Kautz, 
Multiframe Scene Flow with Piecewise Rigid Motion, 
*International Conference on 3D Vision (3DV)*, Qingdao, China, October 2017, Spotlight Presentation.

[C189] 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, 

[C190] S. Peng, B. Haefner, Y. Queau and D. Cremers, 
Depth Super-Resolution Meets Uncalibrated Photometric Stereo, 
*IEEE International Conference on Computer Vision Workshops (ICCVW)*, 2017, Oral Presentation at ICCV Workshop on Color and Photometry in Computer Vision.

[C191] R. Wang, M. Schwörer and D. Cremers, 
Stereo DSO: Large-Scale Direct Sparse Visual Odometry with Stereo Cameras, 

[C192] T. Möllenhoff and D. Cremers, 
Sublabel-Accurate Discretization of Nonconvex Free-Discontinuity Problems, 

[C193] M Ullrich, H Ali, M Durner, ZC Marton and R Triebel, 
Selecting CNN Features for Online Learning of 3D Objects, 

[C194] C Nissler, ZC Marton, H Kisner, U Thomas and R Triebel, 
A Method for Hand-Eye and Camera-to-Camera Calibration for Limited Fields of View, 

[C195] TS Wang, ZC Marton, M Brucker and R Triebel, 
How Robots Learn to Classify New Objects Trained from Small Data Sets, 
*Conference on Robot Learning (CoRL)*, 2017.

[C196] M Durner, S Kriegel, S Riedel, M Brucker, ZC Marton, F Balint-Benczedi and R Triebel, 
Experience-based Optimization of Robotic Perception, 

[C197] Y. Queau, J. Melou, F. Castan, D. Cremers and J.-D. Durou, 
A Variational Approach to Shape-from-shading Under Natural Illumination, 

[C198] F. Bernard, F. R. Schmidt, J. Thunberg and D. Cremers, 
A Combinatorial Solution to Non-Rigid 3D Shape-to-Image Matching, 

[C199] Y. Kuznietsov, J. Stueckler and B. Leibe, 
Semi-Supervised Deep Learning for Monocular Depth Map Prediction, 
A. Kasyanov, F. Engelmann, J. Stueckler and B. Leibe,
Keyframe-Based Visual-Inertial Online SLAM with Relocalization,

F. Engelmann, J. Stueckler and B. Leibe,
SAMe: Shape and Motion Priors for 4D Vehicle Reconstruction,

L. Cosmo, A. Albarelli, F. Bergamasco, A. Torsello, E. Rodola and D. Cremers,
A game-theoretical approach for joint matching of multiple feature throughout unordered images,

M. Jaimez, J. G. Monroy and J. Gonzalez-Jimenez,
Planar Odometry from a Radial Laser Scanner. A Range Flow-based Approach,
Proc. of the IEEE Int. Conf. on Robotics and Automation (ICRA), 4479-4485, 2016.

N. Mayer, E. Ilg, P. Häusser, P. Fischer, D. Cremers, A. Dosovitskiy and T. Brox,
A Large Dataset to Train Convolutional Networks for Disparity, Optical Flow, and Scene Flow Estimation,

V. Golkov, T. Sprenger, J. I. Sperl, M. I. Menzel, M. Czisch, P. Sämann and D. Cremers,
Model-Free Novelty-Based Diffusion MRI,
IEEE International Symposium on Biomedical Imaging (ISBI), Prague, Czech Republic, apr 2016.

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,
Annual Conference on Neural Information Processing Systems (NIPS), Barcelona, Spain, dec 2016, Oral Presentation (acceptance rate: under 2%).

Z. Lähner, E. Rodola, F. R. Schmidt, M. M. Bronstein and D. Cremers,
Efficient Globally Optimal 2D-to-3D Deformable Shape Matching,
IEEE Conference on Computer Vision and Pattern Recognition (CVPR), May 2016.

V. Usenko, J. Engel, J. Stueckler and D. Cremers,
Direct Visual-Inertial Odometry with Stereo Cameras,
International Conference on Robotics and Automation (ICRA), May 2016.

A. Narr, R. Triebel and D. Cremers,
Stream-based Active Learning for Efficient and Adaptive Classification of 3D Objects,
International Conference on Robotics and Automation (ICRA), May 2016.

Z. Lähner, E. Rodola, M. M. Bronstein, D. Cremers, O. Burghard, L. Cosmo, A. Dieckmann, R. Klein and Y. Sahillioglu,
SHREC’16: Matching of Deformable Shapes with Topological Noise,
Proc. of Eurographics Workshop on 3D Object Retrieval (3DOR), May 2016.
All: 1

List of Publications


All: 1

List of Publications

[C223] D. Kochanov, A. Osep, J. Stueckler and B. Leibe,
Scene Flow Propagation for Semantic Mapping and Object Discovery in Dynamic Street Scenes,

[C224] F. Engelmann, J. Stueckler and B. Leibe,
Joint Object Pose Estimation and Shape Reconstruction in Urban Street Scenes Using 3D Shape Priors,

[C225] M. Moeller, J. Diebold, G. Gilboa and D. Cremers,
Learning Nonlinear Spectral Filters for Color Image Reconstruction,
*IEEE International Conference on Computer Vision (ICCV)*, 2015.

[C226] J. Diebold, N. Demmel, C. Hazirbas, M. Möller and D. Cremers,
Interactive Multi-label Segmentation of RGB-D Images,
*Scale Space and Variational Methods in Computer Vision (SSVM)*, june 2015.

[C227] C. Hazirbas, J. Diebold and D. Cremers,
Optimizing the Relevance-Redundancy Tradeoff for Efficient Semantic Segmentation,
*Scale Space and Variational Methods in Computer Vision (SSVM)*, june 2015, Oral Presentation.

[C228] A. Kanezaki, E. Rodola and T. Harada,
RGB-D [Graph matching gakushuu wo mochita RGB-D gazou kara no buttai kenshatsu] - Learning graph matching for object detection from RGB-D images,
*20 - Robotics Symposia (RS)*, Karuizawa, Japan, mar 2015.

[C229] T. Möllenhoff, E. Strekalovskiy, M. Möller and D. Cremers,
Low Rank Priors for Color Image Regularization,

[C230] 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.

[C231] J. Stühmer and D. Cremers,
A Fast Projection Method for Connectivity Constraints in Image Segmentation,

[C232] R. Mecca, E. Rodola and D. Cremers,
Analysis of Surface Parametrizations for Modern Photometric Stereo Modeling,
*International Conference on Quality Control by Artificial Vision (QCAV)*, 2015.

[C233] 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,
*IEEE Conference on Computer Vision and Pattern Recognition (CVPR)*, 2015.
[C234] D. Mund, R. Triebel and D. Cremers,  
Active Online Confidence Boosting for Efficient Object Classification,  

Using Diffusion and Structural MRI for the Automated Segmentation of Multiple Sclerosis Lesions,  

[C236] M.I. Menzel, T. Sprenger, E.T. Tan, V. Golkov, C.J. Hardy, L. Marinelli and J.I. Sperl,  
Robustness of Phase Sensitive Reconstruction in Diffusion Spectrum Imaging,  

[C237] A. Menini, V. Golkov and F. Wiesinger,  
Free-Breathing, Self-Navigated RUFIS Lung Imaging with Motion Compensated Image Reconstruction,  

q-Space Deep Learning for Twelve-Fold Shorter and Model-Free Diffusion MRI Scans,  
Medical Image Computing and Computer Assisted Intervention (MICCAI), Munich, Germany, oct 2015.

[C239] 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,  
IEEE International Conference on Computer Vision (ICCV), dec 2015.

SPENCER: A Socially Aware Service Robot for Passenger Guidance and Help in Busy Airports,  

[C241] D. Holz, A. Topalidou-Kyniazopoulou, J. Stueckler and S. Behnke,  
Real-Time Object Detection, Localization and Verification for Fast Robotic Depalletizing,  

[C242] J. Engel, J. Stueckler and D. Cremers,  
Large-Scale Direct SLAM with Stereo Cameras,  

[C243] D. Caruso, J. Engel and D. Cremers,  
Large-Scale Direct SLAM for Omnidirectional Cameras,  
[C244] Y. Tao, R. Triebel and D. Cremers, 
Semi-supervised Online Learning for Efficient Classification of Objects in 3D Data Streams, 

[C245] R. Maier, J. Stueckler and D. Cremers, 
Super-Resolution Keyframe Fusion for 3D Modeling with High-Quality Textures, 

[C246] V. Usenko, J. Engel, J. Stueckler and D. Cremers, 
Reconstructing Street-Scenes in Real-Time From a Driving Car, 

[C247] M. Jaimez, M. Souiai, J. Stueckler, J. Gonzalez-Jimenez and D. Cremers, 
Motion Cooperation: Smooth Piece-Wise Rigid Scene Flow from RGB-D Images, 

[C248] E. Rodola, M. Moeller and D. Cremers, 
Point-wise Map Recovery and Refinement from Functional Correspondence, 
*Proceedings Vision, Modeling and Visualization (VMV)*, Aachen, Germany, 2015, Received the Best Paper Award.

[C249] C. Kerl, J. Stueckler and D. Cremers, 
Dense Continuous-Time Tracking and Mapping with Rolling Shutter RGB-D Cameras, 
*IEEE International Conference on Computer Vision (ICCV)*, Santiago, Chile, 2015.

[C250] M. Souiai, M. R. Oswald, Y. Kee, J. Kim, M. Pollefeys and D. Cremers, 
Entropy Minimization for Convex Relaxation Approaches, 
*IEEE International Conference on Computer Vision (ICCV)*, Santiago, Chile, 2015.

[C251] 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.

[C252] N. Nagaraja, F. R. Schmidt and T. Brox, 
Video Segmentation with Just a Few Strokes, 
*IEEE International Conference on Computer Vision (ICCV)*, Santiago, Chile, Dec 2015.

Model-Based Tracking at 300Hz using Raw Time-of-Flight Observations, 
*IEEE International Conference on Computer Vision (ICCV)*, Santiago, Chile, 2015.

[C254] J. Duran, M. Moeller, C. Sbert and D. Cremers, 
A Novel Framework for Nonlocal Vectorial Total Variation Based on $P^{q, r}$ norms, 
All: 1

List of Publications

 Novel Acquisition Scheme for Diffusion Kurtosis Imaging Based on Compressed-Sensing Accelerated DSI Yielding Superior Image Quality,

 Total Variation-Regularized Compressed Sensing Reconstruction for Multi-Shell Diffusion Kurtosis Imaging,

 Direct Reconstruction of the Average Diffusion Propagator with Simultaneous Compressed-Sensing-Accelerated Diffusion Spectrum Imaging and Image De- noising by Means of Total Generalized Variation Regularization,

[C258] V. Golkov, M.I. Menzel, T. Sprenger, A. Haase, D. Cremers and J.I. Sperl,
 Semi-Joint Reconstruction for Diffusion MRI Denoising Imposing Similarity of Edges in Similar Diffusion-Weighted Images,

 Improved Diffusion Kurtosis Imaging and Direct Propagator Estimation Using 6-D Compressed Sensing,

[C260] D. B. AD. CJ. C D. Weikersdorfer,
 Event-based 3D SLAM with a depth-augmented dynamic vision sensor,

[C261] F. Steinbruecker, J. Sturm and D. Cremers,
 Volumetric 3D Mapping in Real-Time on a CPU,
 International Conference on Robotics and Automation (ICRA), Hongkong, China, 2014.

[C262] E. Rodola, S. R Bulo, T. Windheuser, M. Vestner and D. Cremers,
 Dense Non-Rigid Shape Correspondence Using Random Forests,

[C263] Y. Kee, M. Souiai, D. Cremers and J. Kim,
 Sequential Convex Relaxation for Mutual-Information-Based Unsupervised Figure-Ground Segmentation,

[C264] H. Alvarez, L.M. Paz, J. Sturm and D. Cremers,
 Collision Avoidance for Quadrotors with a Monocular Camera,

[C265] J. Engel, T. Schöps and D. Cremers,
 LSD-SLAM: Large-Scale Direct Monocular SLAM,
 European Conference on Computer Vision (ECCV), September 2014, Oral Presentation.
[C266] T. Schöps, J. Engel and D. Cremers,  
Semi-Dense Visual Odometry for AR on a Smartphone,  

[C267] T. Windheuser, M. Vestner, E. Rodola, R. Triebel and D. Cremers,  
Optimal Intrinsic Descriptors for Non-Rigid Shape Analysis,  

[C268] M. Strobel, J. Diebold and D. Cremers,  
Flow and Color Inpainting for Video Completion,  
*German Conference on Pattern Recognition (GCPR)*, Münster, Germany, September 2014, Oral Presentation.

[C269] R. Maier, J. Sturm and D. Cremers,  
Submap-based Bundle Adjustment for 3D Reconstruction from RGB-D Data,  
*German Conference on Pattern Recognition (GCPR)*, Münster, Germany, September 2014, Oral Presentation.

[C270] T. Gurdan, M. R. Oswald, D. Gurdan and D. Cremers,  
Spatial and Temporal Interpolation of Multi-View Image Sequences,  
*German Conference on Pattern Recognition (GCPR)*, Münster, Germany, Vol. 36, sep 2014.

[C271] M. R. Oswald and D. Cremers,  
Surface Normal Integration for Convex Space-time Multi-view Reconstruction,  

[C272] C. Nieuwenhuis, S. Hawe, M. Kleinsteuber and D. Cremers,  
Co-Sparse Textural Similarity for Interactive Segmentation,  

[C273] M. R. Oswald, J. Stühmer and D. Cremers,  
Generalized Connectivity Constraints for Spatio-temporal 3D Reconstruction,  

[C274] E. Strekalovskiy and D. Cremers,  
Real-Time Minimization of the Piecewise Smooth Mumford-Shah Functional,  

[C275] A. Kanezaki, E. Rodola and T. Harada,  
RGB-D [RGB-D gazou kara no buttai kenshutsu ni okeru taiou tenshuugou ruijido no gakushuu],  

[C276] A. Kanezaki, E. Rodola, D. Cremers and T. Harada,  
[Taiou tenshuugou ruijido gakushuu wo mochiita goutai-higoutai buttai kenshutsu],  

[C277] M. Andreux, E. Rodola, M. Aubry and D. Cremers,  
Anisotropic Laplace-Beltrami Operators for Shape Analysis,  
Sixth Workshop on Non-Rigid Shape Analysis and Deformable Image Alignment (NOR-DIA), 2014.
[C278] O. Dunkley, J. Engel, J. Sturm and D. Cremers, 
Visual-Inertial Navigation for a Camera-Equipped 25g Nano-Quadrotor, 

[C279] R. Triebel, J. Stühmer, M. Souiai and D. Cremers, 
Active Online Learning for Interactive Segmentation Using Sparse Gaussian Processes, 
German Conference on Pattern Recognition, 2014.

[C280] S. Debnath, S. S. Baishya, R. Triebel, V. Dutt and D. Cremers, 
Environment-adaptive Learning: How Clustering Helps to Obtain Good Training Data, 

[C281] A. Kanezaki, E. Rodola, D. Cremers and T. Harada, 
Learning Similarities for Rigid and Non-Rigid Object Detection, 
International Conference on 3D Vision (3DV), 2014.

[C282] D. Bender, M. Schikora, J. Sturm and D. Cremers, 
INS-Camera Calibration without Ground Control Points, 
9th IEEE ISIF Workshop on Sensor Data Fusion: Trends, Solutions, Applications (SDF), 2014.

[C283] C. Kerl, M. Souiai, J. Sturm and D. Cremers, 
Towards Illumination-invariant 3D Reconstruction using ToF RGB-D Cameras, 
International Conference on 3D Vision (3DV), 2014.

[C284] J. Stueckler and S. Behnke, 
Adaptive Tool-Use Strategies for Anthropomorphic Service Robots, 

[C285] D. Droeschel, J. Stueckler and S. Behnke, 
Local Multi-Resolution Surfel Grids for MAV Motion Estimation and 3D Mapping, 

[C286] J. Stueckler, A. Gutt and S. Behnke, 
Combining the Strengths of Sparse Interest Point and Dense Image Registration for RGB-D Odometry, 
Proc. of the Joint 45th International Symposium on Robotics (ISR) and 8th German Conference on Robotics (ROBOTIK), to appear, jun 2014.

[C287] J. Stueckler and S. Behnke, 
Efficient deformable registration of multi-resolution surfel maps for object manipulation skill transfer, 
All: 1

List of Publications

[C288] D. Droeschel, J. Stueckler and S. Behnke,
Local multi-resolution representation for 6D motion estimation and mapping
with a continuously rotating 3D laser scanner,
*Proc. of the IEEE Int. Conf. on Robotics and Automation (ICRA)*, 5221-5226, May 2014.

[C289] M. Schwarz, J. Stueckler and S. Behnke,
Mobile Teleoperation Interfaces with Adjustable Autonomy for Personal Ser-
vice Robots,
*Proceedings of the 2014 ACM/IEEE International Conference on Human-robot Interacti-

[C290] F. R. Schmidt, T. Windheuser, U. Schlickewei and D. Cremers,
**Dense Elastic 3D Shape Matching**, 

[C291] J Bergbauer and S Tari,
**Wimmelbild Analysis with Approximate Curvature Coding Distance Images**, 
A. Kuijper, K. Bredies, T. Pock and H. Bischof(Eds.), *Scale Space and Variational Me-
thods in Computer Vision*, Schloss Seggau, Leibnitz, Austria, Springer, Lecture Notes in
Computer Science, Vol. 7893, 489-500, June 2013, **Oral Presentation**.

[C292] J Bergbauer and S Tari,
**Top-down visual search in Wimmelbild**, 

[C293] F. Bergamasco, A. Albarelli, E. Rodola and A. Torsello,
Can a fully unconstrained imaging model be applied effectively to central ca-
meras?,
*IEEE Conference on Computer Vision and Pattern Recognition (CVPR)*, 2013.

[C294] M. Souiai, C. Nieuwenhuis, E. Strekalovskiy and D. Cremers,
**Convex Optimization for Scene Understanding**, 
*ICCV Workshop on Graphical Models for Scene Understanding*, 2013.

[C295] J. Bergbauer, C. Nieuwenhuis, M. Souiai and D. Cremers,
**Proximity Priors for Variational Semantic Segmentation and Recognition**, 
*ICCV Workshop on Graphical Models for Scene Understanding*, 2013.

[C296] V. Golkov, T. Sprenger, A. Menini, M.I. Menzel, D. Cremers and J.I. Sperl,
Effects of Low-Rank Constraints, Line-Process Denoising, and q-Space Com-
pressed Sensing on Diffusion MR Image Reconstruction and Kurtosis Tensor
Estimation,
*European Society for Magnetic Resonance in Medicine and Biology (ESMRMB) Annual
Meeting*, 2013, **Oral Presentation**.

[C297] V. Golkov, T. Sprenger, M.I. Menzel, D. Cremers and J.I. Sperl,
**Line-Process-Based Joint SENSE Reconstruction of Diffusion Images with In-
tensity Inhomogeneity Correction and Noise Non-Stationarity Correction**, 
*European Society for Magnetic Resonance in Medicine and Biology (ESMRMB) Annual
Meeting*, 2013, **Certificate of Merit Award**.

[C298] V. Golkov, M.I. Menzel, T. Sprenger, A. Menini, D. Cremers and J.I. Sperl,
**Reconstruction, Regularization, and Quality in Diffusion MRI Using the Ex-
ample of Accelerated Diffusion Spectrum Imaging**, 
*16th Annual Meeting of the German Chapter of the ISMRM*, 2013, **Oral Presentation**.

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[C299] V. Golkov, M.I. Menzel, T. Sprenger, A. Menini, D. Cremers and J.I. Sperl, 
Corrected Joint SENSE Reconstruction, Low-Rank Constraints, and 
Compressed-Sensing-Accelerated Diffusion Spectrum Imaging in Denoising 
and Kurtosis Tensor Estimation, 
*ISMRM Workshop on Diffusion as a Probe of Neural Tissue Microstructure*, 2013.

Hardy, L. Marinelli, M. Czisch, P. Sämann, A. Haase and M.I. Menzel, 
SNR-dependent Quality Assessment of Compressed-Sensing-Accelerated Diffu-
sion Spectrum Imaging Using a Fiber Crossing Phantom, 
*International Society for Magnetic Resonance in Medicine (ISMRM) Annual Meeting*, 
2013.

Menzel, 
Phase Sensitive Reconstruction in Diffusion Spectrum Imaging Enabling Vel-
cocity Encoding and Unbiased Noise Distribution, 
*International Society for Magnetic Resonance in Medicine (ISMRM) Annual Meeting*, 
2013.

Cremers and J.I. Sperl, 
Noise Reduction in Accelerated Diffusion Spectrum Imaging through Integra-
tion of SENSE Reconstruction into Joint Reconstruction in Combination with 
q-Space Compressed Sensing, 
*International Society for Magnetic Resonance in Medicine (ISMRM) Annual Meeting*, 
2013.

[C303] C. Kerl, J. Sturm and D. Cremers, 
Robust Odometry Estimation for RGB-D Cameras, 
*International Conference on Robotics and Automation (ICRA)*, May 2013, Best Vision 
Paper Award - Finalist.

[C304] E. Toeppe, C. Nieuwenhuis and D. Cremers, 
Volume Constraints for Single View Reconstruction, 
*IEEE Conference on Computer Vision and Pattern Recognition (CVPR)*, Portland, USA, 
2013.

Wonneberger, J. Timpner, S. Rottmann, B. Li, B. Schmidt, T. N Nguyen, E. Cardarelli, 
S. Cattani, S. Brünig, S. Horstmann, M. Stellmacher, H. Mielenz, K. Köser, M. Beermann, 
L. Wolf, M. Pollefeys, S. Brosig, J. Effertz, C. Pradalier and R. Siegwart, 
Toward Automated Driving in Cities using Close-to-Market Sensors, 

Knowing When We Don't Know: Introspective Classification for Mission-
critical Decision Making, 

[C307] A. SD. C D. Weikersdorfer, 
Depth-adative Supervoxels for RGB-D Video Segmentation, 
[C308] R. Triebel, H. Grimmett and I. Posner,
Confidence Boosting: Improving the Introspectiveness of a Boosted Classifier for Efficient Learning,

Introspective Active Learning for Scalable Semantic Mapping,

[C310] E. Bylow, J. Sturm, C. Kerl, F. Kahl and D. Cremers,
Real-Time Camera Tracking and 3D Reconstruction Using Signed Distance Functions,

[C311] E. Bylow, J. Sturm, C. Kerl, F. Kahl and D. Cremers,
Direct Camera Pose Tracking and Mapping With Signed Distance Functions,
*Demo Track of the RGB-D Workshop on Advanced Reasoning with Depth Cameras at the Robotics: Science and Systems Conference (RSS)*, June 2013.

[C312] J. Sturm and W. Burgard,
Learning Probabilistic Models for Mobile Manipulation Robots,
*Proc. of the International Joint Conference on Artificial Intelligence (IJCAI)*, Track on Best papers in Sister Conferences, 2013.

[C313] M. Souiai, E. Strekalovskiy, C. Nieuwenhuis and D. Cremers,
A Co-occurrence Prior for Continuous Multi-Label Optimization,

[C314] F. Stangl, M. Souiai and D. Cremers,
Performance Evaluation of Narrow Band Methods for Variational Stereo,
*35th German Conference on Pattern Recognition (GCPR)*, 2013.

[C315] T. Möllenhoff, C. Nieuwenhuis, E. Toeppe and D. Cremers,
Efficient Convex Optimization for Minimal Partition Problems with Volume Constraints,

[C316] C. Kerl, J. Sturm and D. Cremers,
Dense Visual SLAM for RGB-D Cameras,

[C317] T. Naseer, J. Sturm and D. Cremers,
FollowMe: Person Following and Gesture Recognition with a Quadrocopter,

[C318] M. Klodt, J. Sturm and D. Cremers,
Scale-Aware Object Tracking with Convex Shape Constraints on RGB-D Images,
*German Conference on Pattern Recognition (GCPR)*, Saarbrücken, Germany, September 2013.
[C319] J. Sturm, E. Bylow, F. Kahl and D. Cremers,  
Dense Tracking and Mapping with a Quadrocopter,  
*Unmanned Aerial Vehicle in Geomatics (UAV-g)*, Rostock, Germany, September 2013.

[C320] D. Bender, M. Schikora, J. Sturm and D. Cremers,  
Graph-based bundle adjustment for INS-camera calibration,  
*Unmanned Aerial Vehicle in Geomatics (UAV-g)*, Rostock, Germany, September 2013,  
Best research paper award.

[C321] J. Sturm, E. Bylow, F. Kahl and D. Cremers,  
CopyMe3D: Scanning and Printing Persons in 3D,  
*German Conference on Pattern Recognition (GCPR)*, Saarbrücken, Germany, September 2013.

[C322] E. Rodola, T. Harada, Y. Kuniyoshi and D. Cremers,  
Efficient Shape Matching using Vector Extrapolation,  

[C323] J. Engel, J. Sturm and D. Cremers,  
Semi-Dense Visual Odometry for a Monocular Camera,  
*IEEE International Conference on Computer Vision (ICCV)*, Sydney, Australia, December 2013.

[C324] E. Rodola, A. Torsello, T. Harada, Y. Kuniyoshi and D. Cremers,  
Elastic Net Constraints for Shape Matching,  
*IEEE International Conference on Computer Vision (ICCV)*, Sydney, Australia, December 2013.

[C325] J. Lellmann, E. Strekalovskiy, S. Koetter and D. Cremers,  
Total Variation Regularization for Functions with Values in a Manifold,  
*IEEE International Conference on Computer Vision (ICCV)*, Sydney, Australia, December 2013.

[C326] C. Nieuwenhuis, E. Strekalovskiy and D. Cremers,  
Proportion Priors for Image Sequence Segmentation,  
*IEEE International Conference on Computer Vision (ICCV)*, Sydney, Australia, December 2013.

[C327] J. Stühmer, P. Schröder and D. Cremers,  
Tree Shape Priors with Connectivity Constraints using Convex Relaxation on General Graphs,  
*IEEE International Conference on Computer Vision (ICCV)*, Sydney, Australia, December 2013,  
Oral Presentation.

[C328] G. Kuschik and D. Cremers,  
Fast and Accurate Large-scale Stereo Reconstruction using Variational Methods,  
*ICCV Workshop on Big Data in 3D Computer Vision*, Sydney, Australia, December 2013.

[C329] M. R. Oswald and D. Cremers,  
A Convex Relaxation Approach to Space Time Multi-view 3D Reconstruction,  
*ICCV Workshop on Dynamic Shape Capture and Analysis (4DMOD)*, 2013.

[C330] F. Steinbruecker, C. Kerl, J. Sturm and D. Cremers,  
Large-Scale Multi-Resolution Surface Reconstruction from RGB-D Sequences,  
*IEEE International Conference on Computer Vision (ICCV)*, Sydney, Australia, 2013.
All: 1

List of Publications

[C331] T. Naseer, J. Sturm and D. Cremers,
Interactive Person Following and Gesture Recognition with a Flying Robot,
Proc. of the Assistance and Service Robotics Workshop (ASROB) at the IE-EE. Int. Conf. on Intelligent Robots and Systems (IROS), Nov. 2013.

Driven Learning for Driving: How Introspection Improves Semantic Mapping,
The International Symposium on Robotics Research (ISRR), 2013.

[C333] D. Cremers, E. Rodola and T. Windheuser,
Relaxations for Minimizing Metric Distortion and Elastic Energies for 3D Shape Matching,

[C334] M. Schadler, J. Stueckler and S. Behnke,
Multi-resolution surfel mapping and real-time pose tracking using a continuously rotating 2D laser scanner,

[C335] J. Stueckler and S. Behnke,
Efficient Dense 3D Rigid-Body Motion Segmentation in RGB-D Video,

[C336] M. McElhone, J. Stueckler and S. Behnke,
Joint detection and pose tracking of multi-resolution surfel models in RGB-D,

[C337] T. Fiolka, J. Stueckler, D. A. Klein, D. Schulz and S. Behnke,
Distinctive 3D surface entropy features for place recognition.,

[C338] A. Berner, J Li, D. Holz, J. Stueckler, S. Behnke and R. Klein,
Combining contour and shape primitives for object detection and pose estimation of prefabricated parts,

[C339] J. Stueckler and S. Behnke,
Hierarchical Object Discovery and Dense Modelling From Motion Cues in RGB-D Video,

[C340] M. Nieuwenhuisen, D. Droeschel, D. Holz, J. Stueckler, A. Berner, J Li, R. Klein and S. Behnke,
Mobile bin picking with an anthropomorphic service robot,

[C341] L. Gorelick, F. R. Schmidt and Y. Boykov,
Fast Trust Region for Segmentation,


All: 1

List of Publications

[C354] E. Strekalovskiy, A. Chambolle and D. Cremers,
A Convex Representation for the Vectorial Mumford-Shah Functional,
*IEEE Conference on Computer Vision and Pattern Recognition (CVPR)*, Providence, Rhode Island, jun 2012.

[C355] J. Engel, J. Sturm and D. Cremers,
Camera-Based Navigation of a Low-Cost Quadrocopter,

[C356] J. Sturm, N. Engelhard, F. Endres, W. Burgard and D. Cremers,
A Benchmark for the Evaluation of RGB-D SLAM Systems,

[C357] J. Engel, J. Sturm and D. Cremers,
Accurate Figure Flying with a Quadrocopter Using Onboard Visual and Inertial Sensing,

[C358] J. Sturm, W. Burgard and D. Cremers,
Evaluating Egomotion and Structure-from-Motion Approaches Using the TUM RGB-D Benchmark,

Evaluation of DSI Imaging with Compressed Sensing under the Presence of Different Noise Levels on a Diffusion Phantom,

Comparison of Diffusion Kurtosis Tensor Estimation Methods in an Advanced Quality Assessment Framework,

[C361] N. Ufer, M. Souiai and D. Cremers,
Wehrli 2.0: An Algorithm for ”Tidying up Art”,

Semantic Categorization of Outdoor Scenes with Uncertainty Estimates using Multi-Class Gaussian Process Classification,

Parsing Outdoor Scenes from Streamed 3D Laser Data Using Online Clustering and Incremental Belief Updates,
U. Hubert, J. Stueckler and S. Behnke,  
Bayesian calibration of the hand-eye kinematics of an anthropomorphic robot,  
Proc. of the 12th IEEE-RAS Int. Conf. on Humanoid Robots (Humanoids), 618-624, nov 2012.

J. Stueckler, N. Biresev and S. Behnke,  
Semantic mapping using object-class segmentation of RGB-D images,  

J. Stueckler and S. Behnke,  
Integrating depth and color cues for dense multi-resolution scene mapping using RGB-D cameras,  
Proc. of the IEEE Int. Conf. on Multisensor Fusion and Integration for Intelligent Systems (MFI), 162-167, sep 2012.

S. Muszynski, J. Stueckler and S. Behnke,  
Adjustable autonomy for mobile teleoperation of personal service robots,  
Proc. of the IEEE Int. Symp. on Robot and Human Interactive Communication, 933-940, sep 2012.

T. Fiolka, J. Stueckler, D. A. Klein, D. Schulz and S. Behnke,  
SURE: Surface Entropy for Distinctive 3D Features,  

G. M. Garcia, D. A. Klein, J. Stueckler, S. Frintrop and A. B. Cremers,  
Adaptive Multi-cue 3D Tracking of Arbitrary Objects,  

J. Stueckler and S. Behnke,  

M. Nieuwenhuisen, J. Stueckler, A. Berner, R. Klein and S. Behnke,  
Shape-Primitive Based Object Recognition and Grasping,  

J. Kläis, J. Stueckler and S. Behnke,  
Efficient Mobile Robot Navigation using 3D Surfel Grid Maps,  

J. Stueckler and S. Behnke,  
Robust Real-Time Registration of RGB-D Images using Multi-Resolution Surfel Representations,  

V. Usenko, F. Seidel, Z. Marton, D. Pangercic and M. Beetz,  
Furniture Classification using WWW CAD Models,  

F. R. Schmidt and Y. Boykov,  
Hausdorff Distance Constraint for Multi-Surface Segmentation,  

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[C376] L. Gorelick, F. R. Schmidt, Y. Boykov, A. Delong and A. Ward, 
Segmentation with non-linear regional constraints via line-search cuts, 

[C377] A. Torsello, E. Rodola and A. Albarelli, 
Multiview Registration via Graph Diffusion of Dual Quaternions, 
*IEEE Conference on Computer Vision and Pattern Recognition (CVPR)*, 2441-2448, 2011.

[C378] F. Bergamasco, A. Albarelli, E. Rodola and A. Torsello, 
RUNE-Tag: a High Accuracy Fiducial Marker with Strong Occlusion Resilience, 
*IEEE Conference on Computer Vision and Pattern Recognition (CVPR)*, 113-120, 2011.

[C379] A. Albarelli, E. Rodola and A. Torsello, 
A Non-Cooperative Game for 3D Object Recognition in Cluttered Scenes, 

[C380] A. Torsello, E. Rodola and A. Albarelli, 
Sampling Relevant Points for Surface Registration, 

[C381] T. Windheuser, U. Schlickewei, F. R. Schmidt and D. Cremers, 
Geometrically Consistent Elastic Matching of 3D Shapes: A Linear Programming Solution, 
*IEEE International Conference on Computer Vision (ICCV)*, 2011.

[C382] M. Aubry, U. Schlickewei and D. Cremers, 
Pose-Consistent 3D Shape Segmentation Based on a Quantum Mechanical Feature Descriptor, 

[C383] T. Schoenemann, S. Masnou and D. Cremers, 
On a linear programming approach to the discrete Willmore boundary value problem and generalizations, 

[C384] E. Strekalovskiy and D. Cremers, 
Total Variation for Cyclic Structures: Convex Relaxation and Efficient Minimization, 

[C385] B. Goldluecke and D. Cremers, 
Introducing Total Curvature for Image Processing, 
*IEEE International Conference on Computer Vision (ICCV)*, 2011.

[C386] E. Strekalovskiy, B. Goldluecke and D. Cremers, 
Tight Convex Relaxations for Vector-Valued Labeling Problems, 
*IEEE International Conference on Computer Vision (ICCV)*, 2011.
[C387] M. Aubry, K. Kolev, B. Goldluecke and D. Cremers,

Decoupling Photometry and Geometry in Dense Variational Camera Calibration,

*IEEE International Conference on Computer Vision (ICCV)*, 2011.

[C388] E. Strekalovskiy and D. Cremers,

Generalized Ordering Constraints for Multilabel Optimization,

*IEEE International Conference on Computer Vision (ICCV)*, 2011.

[C389] J. Hess, J. Sturm and W. Burgard,

Learning the State Transition Model to Efficiently Clean Surfaces with Mobile Manipulation Robots,

*Proc. of the Workshop on Manipulation under Uncertainty at the IEEE Int. Conf. on Robotics and Automation (ICRA)*, Shanghai, China, May 2011.

[C390] N. Engelhard, F. Endres, J. Hess, J. Sturm and W. Burgard,

Real-time 3D visual SLAM with a hand-held camera,


Towards a benchmark for RGB-D SLAM evaluation,


[C392] C. Nieuwenhuis, E. Toeppe and D. Cremers,

Space-Varying Color Distributions for Interactive Multiregion Segmentation: Discrete versus Continuous Approaches,


[C393] M. Klodt and D. Cremers,

A Convex Framework for Image Segmentation with Moment Constraints,

*IEEE International Conference on Computer Vision (ICCV)*, 2011.

[C394] M. Aubry, U. Schlickewei and D. Cremers,

The Wave Kernel Signature: A Quantum Mechanical Approach To Shape Analysis,

*IEEE International Conference on Computer Vision (ICCV) - Workshop on Dynamic Shape Capture and Analysis (4DMOD)*, 2011.

[C395] F. Steinbruecker, J. Sturm and D. Cremers,

Real-Time Visual Odometry from Dense RGB-D Images,

*Workshop on Live Dense Reconstruction with Moving Cameras at the Intl. Conf. on Computer Vision (ICCV)*, 2011.


Mobile Manipulation of Kitchen Containers,

*Proc. of the IROS’11 Workshop on Results, Challenges and Lessons Learned in Advancing Robots with a Common Platform*, San Francisco, CA, USA, 2011.
[C397] M. Schikora, M. Oispuu, W. Koch and D. Cremers,
Multiple Source Localization Based on Biased Bearings Using the Intensity Filter - Approach and Experimental Results,
4th IEEE International Workshop on Computational Advances in Multi-Sensor Adaptive Processing, San Juan, Puerto Rico, December 2011.

[C398] S. Madhogaria, M. Schikora, W. Koch and D. Cremers,
Pixel-based Classification Method for Detecting Unhealthy Regions in Leaf Images,
6th IEEE ISIF Workshop on Sensor Data Fusion: Trends, Solutions, Applications (SDF), Berlin, Germany, September 2011.

[C399] M. Schikora, W. Koch, R.L. Streit and D. Cremers,
Sequential Monte Carlo Method for the iFilter,
14th International Conference on Information Fusion (FUSION), Chicago, IL, USA, July 2011.

[C400] M. Oispuu and M. Schikora,
Multiple Emitter Localization Using a Realistic Airborne Array Sensor,
14th International Conference on Information Fusion (FUSION), Chicago, IL, USA, July 2011.

[C401] M. Schikora, W. Koch and D. Cremers,
Multi-object tracking via high accuracy optical flow and finite set statistics,
International Conference on Acoustics, Speech and Signal Processing (ICASSP), Prag, Czech Republic, Mai 2011.

[C402] E. Toeppe, M. R. Oswald, D. Cremers and C. Rother,
Silhouette-Based Variational Methods for Single View Reconstruction,

[C403] M. R. Oswald, E. Toeppe, C. Nieuwenhuis and D. Cremers,
A Survey on Geometry Recovery from a Single Image with Focus on Curved Object Reconstruction,

[C404] J. Shin, R. Triebel and R. Siegwart,
Unsupervised 3D Object Discovery and Categorization for Mobile Robots,

[C405] J. Maye, R. Triebel, L. Spinello and R. Siegwart,
Bayesian On-line Learning of Driving Behaviors,

[C406] B. Oehler, J. Stueckler, J. Welle, D. Schulz and S. Behnke,
Efficient Multi-resolution Plane Segmentation of 3D Point Clouds,
[C407] J. Stueckler and S. Behnke,
**Following human guidance to cooperatively carry a large object,**
*Proc. of the 11th IEEE-RAS Int. Conf. on Humanoid Robots (Humanoids)*, 218-223, oct 2011.

[C408] J. Stueckler, R. Steffens, D. Holz and S. Behnke,
**Real-Time 3D Perception and Efficient Grasp Planning for Everyday Manipulation Tasks,**
*Proc. of the European Conf. on Mobile Robots (ECMR)*, 177-182, 2011.

[C409] J. Stueckler and S. Behnke,
**Compliant Task-Space Control with Back-Drivable Servo Actuators,**

[C410] D. Droeschel, J. Stueckler, D. Holz and S. Behnke,
**Towards joint attention for a domestic service robot - person awareness and gesture recognition using Time-of-Flight cameras,**
*Proc. of the IEEE Int. Conf. on Robotics and Automation (ICRA)*, 1205-1210, may 2011.

[C411] J. Stueckler and S. Behnke,
**Interest point detection in depth images through scale-space surface analysis,**
*Proc. of the IEEE Int. Conf. on Robotics and Automation (ICRA)*, 3568-3574, may 2011.

[C412] D. Droeschel, J. Stueckler and S. Behnke,
**Learning to Interpret Pointing Gestures with a Time-of-flight Camera,**

[C413] F. R. Schmidt, H. Ackermann and B. Rosenhahn,
**Multilinear Model Estimation with L2-Regularization,**

[C414] A. Delong, L. Gorelick, F. R. Schmidt, O. Veksler and Y. Boykov,
**Interactive Segmentation with Super-Labels,**

[C415] A. Albarelli, E. Rodola and A. Torsello,
**Robust Camera Calibration using Inaccurate Targets,**

[C416] E. Rodola, A. Albarelli and A. Torsello,
**A Game-Theoretic Approach to Robust Selection of Multi-View Point Correspondence,**
*20th International Conference on Pattern Recognition (ICPR)*, 57-60, 2010.

[C417] A. Albarelli, E. Rodola, A. Cavallarin and A. Torsello,
**Robust Figure Extraction on Textured Background: a Game-Theoretic Approach,**
E. Rodola, A. Albarelli and A. Torsello,
A Game-Theoretic Approach to the Enforcement of Global Consistency in Multi-View Feature Matching, 

A. Albarelli, E. Rodola and A. Torsello,
A Game-Theoretic Approach to Fine Surface Registration without Initial Motion Estimation, 

A. Albarelli, E. Rodola and A. Torsello,
Robust Game-Theoretic Inlier Selection for Bundle Adjustment, 
5th International Symposium on 3D Data Processing, Visualization and Transmission (3DPVT), 2010, Best Student Paper Award.

A. Albarelli, E. Rodola and A. Torsello,
Loosely Distinctive Features for Robust Surface Alignment, 

M. Schikora, A. Schikora, K.-H. Kogel, W. Koch and D. Cremers,
Probabilistic Classification of Disease Symptoms caused by Salmonella on Arabidopsis Plants, 
5th IEEE ISIF Workshop on Sensor Data Fusion: Trends, Solutions, Applications (SDF), Leipzig, Germany, September 2010.

M. Schikora, D. Bender, D. Cremers and W. Koch,
Passive Multi-Object Localization and Tracking Using Bearing Data, 

M. Schikora, D. Bender, W. Koch and D. Cremers,
Multi-target multi-sensor localization and tracking using passive antenna and optical sensors on UAVs, 

E. Toeppe, M. R. Oswald, D. Cremers and C. Rother,
Image-based 3D Modeling via Cheeger Sets, 
Asian Conference on Computer Vision, Queenstown, New Zealand, 53-64, nov 2010, Received Honorable Mention Award.

J. Stühmer, S. Gumhold and D. Cremers,
Real-Time Dense Geometry from a Handheld Camera, 
Pattern Recognition (Proc. DAGM), Darmstadt, Germany, 11-20, September 2010.

J. Stühmer, S. Gumhold and D. Cremers,
Parallel Generalized Thresholding Scheme for Live Dense Geometry from a Handheld Camera, 
ECCV Workshop on Computer Vision on GPUs (CVGPU), Heraklion, Greece, September 2010.

B. Goldluecke and D. Cremers,
An Approach to Vectorial Total Variation based on Geometric Measure Theory, 


[C440] J. Shin, R. Triebel and R. Siegwart, 
Unsupervised Discovery of Repetitive Objects, 

[C441] J. Maye, L. Spinello, R. Triebel and R. Siegwart, 
Inferring the Semantics of Direction Signs in Public Places, 

[C442] K. Gräve, J. Stueckler and S. Behnke, 
Improving imitated grasping motions through interactive expected deviation learning, 
Proc. of the 10th IEEE-RAS Int. Conf. on Humanoid Robots (Humanoids), 397-404, dec 2010.

[C443] J. Stueckler and S. Behnke, 
Combining depth and color cues for scale- and viewpoint-invariant object segmentation and recognition using Random Forests, 

[C444] J. Stueckler and S. Behnke, 
Improving People Awareness of Service Robots by Semantic Scene Knowledge, 

Towards Semantic Scene Analysis with Time-of-flight Cameras, 

[C446] H. Schulz, W. Liu, J. Stueckler and S. Behnke, 
Utilizing the Structure of Field Lines for Efficient Soccer Robot Localization, 

[C447] K. Gräve, J. Stueckler and S. Behnke, 
Learning Motion Skills from Expert Demonstrations and Own Experience using Gaussian Process Regression, 

[C448] M. Nieuwenhuisen, J. Stueckler and S. Behnke, 
Intuitive Multimodal Interaction for Domestic Service Robots, 

[C449] M. Nieuwenhuisen, J. Stueckler and S. Behnke, 
Improving indoor navigation of autonomous robots by an explicit representation of doors, 
Proc. of the IEEE Int. Conf. on Robotics and Automation (ICRA), 4895-4901, may 2010.

[C450] D. Droeschel, D. Holz, J. Stueckler and S. Behnke, 
Using Time-of-Flight cameras with active gaze control for 3D collision avoidance, 
Proc. of the IEEE Int. Conf. on Robotics and Automation (ICRA), 4035-4040, may 2010.
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<tr>
<th>Publication ID</th>
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<td>C453</td>
<td>M. R. Oswald, E. Toepppe, K. Kolev and D. Cremers</td>
<td>Non-Parametric Single View Reconstruction of Curved Objects using Convex Optimization,</td>
<td>Pattern Recognition (Proc. DAGM), Jena, Germany, 171-180, September 2009</td>
<td>Received a DAGM Paper Award.</td>
</tr>
<tr>
<td>C454</td>
<td>F. R. Schmidt and D. Cremers</td>
<td>A Closed-Form Solution for Image Sequence Segmentation with Dynamical Shape Priors,</td>
<td>Pattern Recognition (Proc. DAGM), Jena, Germany, September 2009</td>
<td></td>
</tr>
<tr>
<td>C455</td>
<td>F. R. Schmidt, E. Toepppe and D. Cremers</td>
<td>Efficient Planar Graph Cuts with Applications in Computer Vision,</td>
<td>IEEE Conference on Computer Vision and Pattern Recognition (CVPR), Miami, Florida, 351-356, jun 2009</td>
<td>Received a CVPR Doctoral Spotlight Award.</td>
</tr>
<tr>
<td>C456</td>
<td>T. Pock, A. Chambolle, H. Bischof and D. Cremers</td>
<td>A Convex Relaxation Approach for Computing Minimal Partitions,</td>
<td>IEEE Conference on Computer Vision and Pattern Recognition (CVPR), Miami, Florida, 2009</td>
<td></td>
</tr>
<tr>
<td>C458</td>
<td>B. Goldluecke and D. Cremers</td>
<td>A Superresolution Framework for High-Accuracy Multiview Reconstruction,</td>
<td>Pattern Recognition (Proc. DAGM), Jena, Germany, 2009</td>
<td>Received DAGM Best Paper Award.</td>
</tr>
<tr>
<td>C459</td>
<td>B. Goldluecke and D. Cremers</td>
<td>Superresolution Texture Maps for Multiview Reconstruction,</td>
<td>IEEE International Conference on Computer Vision (ICCV), Kyoto, Japan, 2009</td>
<td></td>
</tr>
<tr>
<td>C461</td>
<td>T. Pock, D. Cremers, H. Bischof and A. Chambolle</td>
<td>An Algorithm for Minimizing the Piecewise Smooth Mumford-Shah Functional,</td>
<td>IEEE International Conference on Computer Vision (ICCV), Kyoto, Japan, 2009</td>
<td></td>
</tr>
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</table>
List of Publications

[C462] A. Wedel, D. Cremers, T. Pock and H. Bischof,
Structure- and Motion-adaptive Regularization for High Accuracy Optic Flow,

[C463] T. Schoenemann, F. Kahl and D. Cremers,
Curvature Regularity for Region-based Image Segmentation and Inpainting: A Linear Programming Relaxation,

[C464] T. Windheuser, T. Schoenemann and D. Cremers,
Beyond Connecting the Dots: A Polynomial-time Algorithm for Segmentation and Boundary Estimation with Imprecise User Input,

[C465] F. Steinbruecker, T. Pock and D. Cremers,
Large Displacement Optical Flow Computation without Warping,

[C466] D. Mitzel, T. Pock, T. Schoenemann and D. Cremers,
Video Super Resolution using Duality Based TV-L1 Optical Flow,
*Pattern Recognition (Proc. DAGM)*, Jena, Germany, 2009.

[C467] B. Berkels, C. Nieuwenhuis, C. Garbe and M. Rumpf,
Reconstructing Optical Flow Fields by Motion Inpainting,

[C468] C. Eppner, J. Sturm, M. Bennewitz, C. Stachniss and W. Burgard,
Imitation Learning with Generalized Task Descriptions,

[C469] H. Schulz, L. Ott, J. Sturm and W. Burgard,
Learning Kinematics from Direct Self-Observation Using Nearest-Neighbor Methods,
*Proc. of the German Workshop on Robotics*, June 2009.

[C470] J. Sturm, C. Stachniss, V. Pradeep, C. Plagemann, K. Konolige and W. Burgard,
Towards Understanding Articulated Objects,

[C471] J. Sturm, V. Pradeep, C. Stachniss, C. Plagemann, K. Konolige and W. Burgard,
Learning Kinematic Models for Articulated Objects,
*Proc. of the International Joint Conference on Artificial Intelligence (IJCAI)*, July 2009.

[C472] D. Meyer-Delius, J. Sturm and W. Burgard,
Regression-Based Online Situation Recognition for Vehicular Traffic Scenarios,

[C473] A. Schneider, J. Sturm, C. Stachniss, M. Reisert, H. Burkhardt and W. Burgard,
Object Identification with Tactile Sensors Using Bag-of-Features,
All: 1

List of Publications

[C474] F. Steinbruecker, T. Pock and D. Cremers,
Advanced Data Terms for Variational Optic Flow Estimation,

[C475] M. Schikora and B. Romba,
A Framework for Multiple Radar and Multiple 2D/3D Camera Fusion,
4th IEEE ISIF Workshop on Sensor Data Fusion: Trends, Solutions, Applications (SDF),
Luebeck, Germany, October 2009.

[C476] M. Schikora,
Global Optimal Multiple Object Detection using the Fusion of Shape and Color Information,
7th International Conference on Energy Minimization Methods in Computer Vision and Pattern Recognition (EMMCVPR), Bonn, Germany, August 2009.

[C477] M. Schikora, M. Häge, E. Ruthotto and K. Wild,
A Convex Formulation for Color Image Segmentation in the Context of Passive Emitter Localization,
12th International Conference on Information Fusion (FUSION), Seattle, WA, USA, July 2009.

[C478] L. Spinello, A. Macho, R. Triebel and R. Siegwart,
Detecting Pedestrians at Very Small Scales,

[C479] L. Spinello, R. Triebel and R. Siegwart,
Multiclass Multimodal Detection and Tracking in Urban Environments,
Proc. of Field and Service Robotics (FSR), 2009.

[C480] D. Engel, L. Spinello, R. Triebel, C. Curio, R. Siegwart and H. Bülthoff,
Medial Features for Superpixel Segmentation,

[C481] J. Stueckler and S. Behnke,
Integrating indoor mobility, object manipulation, and intuitive interaction for domestic service tasks,
Proc. of the IEEE-RAS Int. Conf. on Humanoid Robots (Humanoids), 506-513, Dec 2009.

[C482] J. Stueckler, M. Schreiber and S. Behnke,
Dynamaid, an Anthropomorphic Robot for Research on Domestic Service Applications,

[C483] T. Schoenemann, F. R. Schmidt and D. Cremers,
Image Segmentation with Elastic Shape Priors via Global Geodesics in Product Spaces,

[C484] T. Pock, T. Schoenemann, G. Graber, H. Bischof and D. Cremers,
A Convex Formulation of Continuous Multi-Label Problems,
European Conference on Computer Vision (ECCV), Marseille, France, October 2008.

[C485] A. Wedel, C. Rabe, T. Vaudrey, T. Brox, U. Franke and D. Cremers,
Efficient Dense Scene Flow from Sparse or Dense Stereo Data,
European Conference on Computer Vision (ECCV), Marseille, France, October 2008.
[C486] A. Wedel, T. Pock, J. Braun, U. Franke and D. Cremers,  
Duality TV-L1 Flow with Fundamental Matrix Prior,  

[C487] M. Klodt, T. Schoenemann, K. Kolev, M. Schikora and D. Cremers,  
An Experimental Comparison of Discrete and Continuous Shape Optimization  
Methods,  

[C488] A. Wedel, T. Pock, C. Zach, D. Cremers and H. Bischof,  
An Improved Algorithm for TV-L1 Optical Flow,  

[C489] W. Trobin, T. Pock, D. Cremers and H. Bischof,  
An Unbiased Second-Order Prior for High-Accuracy Motion Estimation,  

[C490] D. Cremers, F. R. Schmidt and F. Barthel,  
Shape Priors in Variational Image Segmentation: Convexity, Lipschitz Continuity and Globally Optimal Solutions,  

[C491] B. Rosenhahn, C. Schmaltz, T. Brox, J. Weickert, D. Cremers and H.-P. Seidel,  
Markerless Motion Capture of Man-Machine Interaction,  

[C492] T. Schoenemann and D. Cremers,  
Matching Non-rigidly Deformable Shapes Across Images: A Globally Optimal Solution,  

[C493] T. Schoenemann and D. Cremers,  
Globally Optimal Shape-based Tracking in Real-time,  

[C494] T. Schoenemann and D. Cremers,  
High Resolution Motion Layer Decomposition using Dual-space Graph Cuts,  

[C495] B. Rosenhahn, T. Brox, D. Cremers and H.-P. Seidel,  
Modeling and Tracking Line-Constrained Mechanical Systems,  

[C496] O. Kleinschmidt, T. Brox and D. Cremers,  
Nonlocal texaperture filtering with efficient tree structures and invariant patch similarity measures,  
*Int. Workshop on Local and Nonlocal Approximation*, Lausanne, Switzerland, aug 2008.
[C497] C. Nieuwenhuis, R. Mester and C. Garbe,  
**A Statistical Confidence Measure for Optical Flows**,  

[C498] B. Andres, C. Nieuwenhuis, D. Kondermann, U. Köthe and R. Hamprecht,  
**On Errors-In-Variables Regression with Arbitrary Covariance and its Application to Optical Flow Estimation**,  

[C499] C. Nieuwenhuis, D. Kondermann and C. Garbe,  
**Postprocessing of Optical Flows via Surface Measures and Motion Inpainting**,  

[C500] J. Sturm, C. Plagemann and W. Burgard,  
**Unsupervised Body Scheme Learning through Self-Perception**,  

[C501] J. Sturm, C. Plagemann and W. Burgard,  
**Adaptive Body Scheme Models for Robust Robotic Manipulation**,  

[C502] J. Sturm, C. Plagemann and W. Burgard,  
**Body Scheme Learning and Life-Long Adaptation for Robotic Manipulation**,  

[C503] D. Kondermann, C. Nieuwenhuis, A. Berthe, U. Kertzscher and C. Garbe,  
**Motion Estimation Based on a Temporal Model of Fluid Flows**,  

[C504] L. Spinello, R. Triebel and R. Siegwart,  
**Multimodal Detection and Tracking of Pedestrians in Urban Environments with Explicit Ground Plane Extraction**,  

[C505] L. Spinello, R. Triebel and R. Siegwart,  
**Multimodal People Detection and Tracking in Crowded Scenes**,  

[C506] J. Stueckler, H. Schulz and S. Behnke,  
**In-lane Localization in Road Networks using Curbs Detected in Omnidirectional Height Images**,  

[C507] J. Stueckler and S. Behnke,  
**Orthogonal wall correction for visual motion estimation**,  
*Proc. of the IEEE Int. Conf. on Robotics and Automation (ICRA)*, 1-6, may 2008.
S. Frintrop, M. Klodt and E. Rome,
*A Real-time Visual Attention System Using Integral Images*,
5th International Conference on Computer Vision Systems (ICVS 2007), Bielefeld, Germany, March 2007.

S. May, M. Klodt, E. Rome and R. Breithaupt,
*GPU-accelerated Affordance Cueing based on Visual Attention*,

K. Kolev, M. Klodt, T. Brox and D. Cremers,
*Propagated Photoconsistency and Convexity in Variational Multiview 3D Reconstruction*,

K. Kolev, M. Klodt, T. Brox, S. Esedoglu and D. Cremers,
*Continuous Global Optimization in Multiview 3D Reconstruction*,

T. Brox, B. Rosenhahn, D. Cremers and H.-P. Seidel,
*Nonparametric density estimation with adaptive anisotropic kernels for human motion tracking*,

T. Schoenemann and D. Cremers,
*Globally Optimal Image Segmentation with an Elastic Shape Prior*,

T. Schoenemann and D. Cremers,
*Introducing Curvature into Globally Optimal Image Segmentation: Minimum Ratio Cycles on Product Graphs*,

F. R. Schmidt, D Farin and D. Cremers,
*Fast Matching of Planar Shapes in Sub-cubic Runtime*,

F. R. Schmidt, E. Toeppe, D. Cremers and Y. Boykov,
*Intrinsic Mean for Semimetrical Shape Retrieval via Graph Cuts*,

A. Wedel and U. Franke,
*Monocular Video Serves RADAR-based Emergency Braking*,
Intelligent Vehicles, Istanbul, Turkey, jun 2007.

A. Wedel, T. Schoenemann, T. Brox and D. Cremers,
*WarpCut - Fast obstacle segmentation in monocular video*,
All: 1

List of Publications

[C519] C. Schmaltz, B. Rosenhahn, T. Brox, D. Cremers, J. Weickert, L. Wietzke and G. Sommer, Occlusion Modeling by Tracking Multiple Objects, 

[C520] B. Rosenhahn, T. Brox, D. Cremers and H.-P. Seidel, 
Online smoothing for markerless motion capture, 

[C521] F. R. Schmidt, E. Toeppe, D. Cremers and Y. Boykov, 
Efficient Shape Matching via Graph Cuts, 

[C522] B. Rosenhahn, T. Brox and H.-P. Seidel, 
Scaled motion dynamics for markerless motion capture, 

[C523] D. Cremers, 
Nonlinear Dynamical Shape Priors for Level Set Segmentation, 

[C524] T. Brox and D. Cremers, 
On the Statistical Interpretation of the Piecewise Smooth Mumford-Shah Functional, 

[C525] T. Brox and D. Cremers, 
Iterated Nonlocal Means for Texture Restoration, 

[C526] C. Schmaltz, B. Rosenhahn, T. Brox, D. Cremers, J. Weickert, L. Wietzke and G. Sommer, 
Region-based Pose Tracking, 

[C527] D. Cremers, O. Fluck, M. Rousson and S. Aharon, 
A probabilistic level set formulation for interactive organ segmentation, 

[C528] C. Nieuwenhuis, D. Kondermann and B. Jähne, 
An Adaptive Confidence Measure for Optical Flows Based on Linear Subspace Projections, 

[C529] C. Nieuwenhuis, D. Kondermann and M. Yan, 
Blood vessel classification into arteries and veins in retinal images, 
[C530] R. Triebel, O. M Mozos and W. Burgard,
Collective Classification for Labeling of Places and Objects in 2D and 3D Range Data,

[C531] R. Kümmerle, P. Pfaff, R. Triebel and W. Burgard,
Active Monte Carlo Localization in Outdoor Terrains using Multi-Level Surface Maps,
Fachgespräche Autonome Mobile Systeme (AMS), 2007.

[C532] R. Triebel and W. Burgard,
Recovering the Shape of Objects in 3D Point Clouds with Partial Occlusions,

[C533] R. TP. P R. Kümmerle and W. Burgard,
Monte Carlo Localization in Outdoor Terrains using Multi-Level Surface Maps,

[C534] P. Pfaff, R. Triebel, C. Stachniss, P. Lamon, W. Burgard and R. Siegwart,
Towards Mapping of Cities,

[C535] R. Triebel, R. Schmidt, O. M Mozos and W. Burgard,
Instance-based AMN Classification for Improved Object Recognition in 2D and 3D Laser Range Data,

[C536] S. Behnke, J. Stueckler, M. Schreiber, H. Schulz, M. Böhmert and K. Meier,
Hierarchical reactive control for a team of humanoid soccer robots,
Proc. of the IEEE-RAS Int. Conf. on Humanoid Robots (Humanoids), 622-629, nov 2007.

Learning for multi-view 3D tracking in the context of particle filters,

[C538] F. R. Schmidt, M. Clausen and D. Cremers,
Shape Matching by Variational Computation of Geodesics on a Manifold,

[C539] T. Schoenemann and D. Cremers,
Near Real-time Motion Segmentation using Graph Cuts,

[C540] T. Brox, B. Rosenhahn, U. Kersting and D. Cremers,
Nonparametric density estimation for human pose tracking,
[C541] K. Kolev, T. Brox and D. Cremers,
Robust variational segmentation of 3D objects from multiple views,
K. Franke et al.(Ed.), *Pattern Recognition (Proc. DAGM)*, Berlin, Germany, Springer,

[C542] A. Wedel, U. Franke, J. Klappstein, T. Brox and D. Cremers,
Realtime depth estimation and obstacle detection from monocular video,
K. Franke et al.(Ed.), *Pattern Recognition (Proc. DAGM)*, Berlin, Germany, Springer,

[C543] Y. Boykov, V. Kolmogorov, D. Cremers and A. Delong,
An integral solution to surface evolution PDEs via Geo-Cuts,
A. Leonardis, H. Bischof and A. Pinz(Eds.), *European Conference on Computer Vision (ECCV)*,
Graz, Austria, Springer, LNCS, Vol. 3953, 409-422, may 2006.

[C544] B. Rosenhahn, T. Brox, D. Cremers and H.-P. Seidel,
A comparison of shape matching methods for contour based pose estimation,

[C545] T. Brox, A. Bruhn and J. Weickert,
Variational motion segmentation with level sets,
A. Leonardis, H. Bischof and A. Pinz(Eds.), *European Conference on Computer Vision (ECCV)*,

[C546] T. Brox, B. Rosenhahn, D. Cremers and H.-P. Seidel,
High accuracy optical flow serves 3-D pose tracking: exploiting contour and
flow based constraints,
A. Leonardis, H. Bischof and A. Pinz(Eds.), *European Conference on Computer Vision (ECCV)*,

[C547] T. Brox, Y.-J. Kim, J. Weickert and W. Feiden,
Fully-automated analysis of muscle fiber images with combined region and
edge based active contours,

[C548] D. Cremers and L. Grady,
Statistical priors for combinatorial optimization: efficient solutions via Graph
Cuts,
A. Leonardis, H. Bischof and A. Pinz(Eds.), *European Conference on Computer Vision (ECCV)*,
Graz, Austria, Springer, LNCS, Vol. 3953, 263-274, may 2006.

[C549] D. Cremers, C. Guetter and C. Xu,
Nonparametric priors on the space of joint intensity distributions for non-rigid
multi-modal image registration,

[C550] O. Fluck, S. Aharon, D. Cremers and M. Rousson,
GPU histogram computation,
*ACM SIGGRAPH posters and demos*, 2006.
T. Kohlberger, D. Cremers, M. Rousson and R. Ramaraj,  
4D shape priors for level set segmentation of the left myocardium in SPECT sequences,  

C. Nieuwenhuis and M. Yan,  
*Knowledge Based Image Enhancement Using Neural Networks*,  

D. A. van Sand M. de Greef, J. Sturm and A. Visser,  
*Autonomous Color Learning in an Artificial Environment*,  

J. Sturm, P. van Rossum and A. Visser,  
*Panoramic Localization in the 4-Legged League*,  

A. Visser, J. Sturm and F.C.A. Groen,  
*Robot companion localization at home and in the office*,  

A. Visser, P. van Rossum, J. Westra, J. Sturm and D. A. van Sand M. de Greef,  
*Dutch AIBO Team at RoboCup 2006*,  

R. Triebel, P. Pfaff and W. Burgard,  
*Multi-Level Surface Maps for Outdoor Terrain Mapping and Loop Closing*,  

R. Triebel, K. Kersting and W. Burgard,  
*Robust 3D Scan Point Classification using Associative Markov Networks*,  

H. Andreasson, R. Triebel and A. Lilienthal,  
*Vision-based Interpolation of 3D Laser Scans*,  

S. Behnke, M. Schreiber, J. Stueckler, R. Renner and H. Strasdat,  
*See, walk, and kick: Humanoid robots start to play soccer*,  
Proc. of the IEEE-RAS Int. Conf. on Humanoid Robots (Humanoids), 497-503, dec 2006.

M. Breus, T. Brox, T. Sonar and J. Weickert,  
*Stabilised nonlinear inverse diffusion for approximating hyperbolic PDEs*,  
R. Kimmel, N. Sochen and J. Weickert(Eds.), *Scale Space and PDE Methods in Computer Vision*, Hofgeismar, Germany, Springer, LNCS, 536-547, apr 2005.
[C562] T. Brox, B. Rosenhahn and J. Weickert,
Three-dimensional shape knowledge for joint image segmentation and pose estimation,

[C563] D. Cremers and G. Funka-Lea,
Dynamical statistical shape priors for level set based tracking,

[C564] S. Manay, D. Cremers, A. J. Yezzi and S. Soatto,
One-shot integral invariant shape priors for variational segmentation,

[C565] B. Rosenhahn, U. Kersting, D. Smith, J. Gurney, T. Brox and R. Klette,
A system for marker-less human motion estimation,

[C566] M. Rousson and D. Cremers,
Efficient kernel density estimation of shape and intensity priors for level set segmentation,

[C567] M. Welk, D. Theis, T. Brox and J. Weickert,
PDE based deconvolution with forward-backward diffusivities and diffusion tensors,

[C568] B. Goldluecke and M. Magnor,
Spacetime-Continuous Geometry Meshes from Multi-View Video Sequences,

[C569] I. Ihrke, B. Goldluecke and M. Magnor,
Reconstructing the Geometry of Flowing Water,

[C570] N. Wijngaards, F. Dignum, P. Jonker, T. de Ridder, A. Visser, S. Leijnen and J. Sturm,
Dutch AIBO Team at RoboCup 2005,

[C571] H. Andreasson, R. Triebel and W. Burgard,
Improving Plane Extraction from 3D Data by Fusing Laser Data and Vision,
All: 1

List of Publications

[C572] R. Triebel and W. Burgard,
Improving Simultaneous Localization and Mapping in 3D Using Global Constraints,
*Proc. of the Twentieth National Conference on Artificial Intelligence (AAAI)*, 2005.

[C573] R. Triebel, W. Burgard and F. Dellaert,
Using Hierarchical EM to Extract Planes from 3D Range Scans,

[C574] D. Cremers,
Bayesian Approaches to Motion-based Image and Video Segmentation,

[C575] T. Brox, A. Bruhn, N. Papenberg and J. Weickert,
High accuracy optical flow estimation based on a theory for warping,
T. Pajdla and J. Matas(Eds.), *European Conference on Computer Vision (ECCV)*, Prague, Czech Republic, Springer, LNCS, Vol. 3024, 25-36, may 2004, 60;Received 'The Longuet-Higgins Best Paper Award'60;/a¿.

[C576] T. Brox and J. Weickert,
A TV flow based local scale measure for texture discrimination,

[C577] T. Brox and J. Weickert,
Level set based segmentation of multiple objects,

[C578] D. Cremers, S. J. Osher and S. Soatto,
Kernel density estimation and intrinsic alignment for knowledge-driven segmentation: Teaching level sets to walk,

[C579] D. Cremers, N. Sochen and C. Schnörr,
Multiphase dynamic labeling for variational recognition-driven image segmentation,

[C580] H. Jin, D. Cremers, A. Yezzi and S. Soatto,
Shedding light on stereoscopic segmentation,

[C581] M. Magnor and B. Goldluecke,
Spacetime-coherent Geometry Reconstruction from Multiple Video Streams,
All: 1

List of Publications

[C582] B. Goldluecke and M. Magnor,
Weighted Minimal Hypersurfaces and Their Applications in Computer Vision,
European Conference on Computer Vision (ECCV), Prague, Czech Republic, Springer,

[C583] B. Goldluecke and M. Magnor,
Space-Time Isosurface Evolution for Temporally Coherent 3D Reconstruction,
IEEE Conference on Computer Vision and Pattern Recognition (CVPR), Washington,

[C584] R. Triebel, B. Frank, J. Meyer and W. Burgard,
First steps towards a robotic system for flexible volumetric mapping of indoor
environments,
Proc. of the 5th IFAC/EURON Symposium on Intelligent Autonomous Vehicles (IAV),
2004.

[C585] T. Brox, M. Rousson, R. Deriche and J. Weickert,
Unsupervised segmentation incorporating colour, texture, and motion,
N. Petkov and M. A. Westenberg(Eds.), Computer Analysis of Images and Patterns, Gro-

[C586] T. Brox, M. Welk, G. Steidl and J. Weickert,
Equivalence results for TV diffusion and TV regularisation,
L. D. Griffin and M. Lillholm(Eds.), Scale-Space Methods in Computer Vision, Isle of Skye,

[C587] D. Cremers,
A variational framework for image segmentation combining motion estimation
and shape regularization,
C. Dyer and P. Perona(Eds.), IEEE Conference on Computer Vision and Pattern Recog-

[C588] D. Cremers,
A multiphase level set framework for variational motion segmentation,
L. D. Griffin and M. Lillholm(Eds.), Scale-Space Methods in Computer Vision, Isle of Skye,

[C589] D. Cremers and S. Soatto,
A pseudo-distance for shape priors in level set segmentation,
N. Paragios(Ed.), IEEE 2nd Int. Workshop on Variational, Geometric and Level Set Me-

[C590] D. Cremers and S. Soatto,
Variational space-time motion segmentation,
B. Triggs and A. Zisserman(Eds.), IEEE International Conference on Computer Vision

[C591] D. Cremers, N. Sochen and C. Schnörr,
Towards Recognition-based Variational Segmentation Using Shape Priors and
Dynamic Labeling,
L. D. Griffin and M. Lillholm(Eds.), Scale-Space Methods in Computer Vision, Isle of Skye,
[C592] D. Cremers and A. L. Yuille, 
A generative model based approach to motion segmentation, 

[C593] G. Doretto, D. Cremers, P. Favaro and S. Soatto, 
Dynamic texture segmentation, 

[C594] M. Rousson, T. Brox and R. Deriche, 
Active unsupervised texture segmentation on a diffusion based feature space, 

[C595] B. Goldluecke and M. Magnor, 
Joint 3D Reconstruction and Background Separation in Multiple Views using Graph Cuts, 

[C596] B. Goldluecke and M. Magnor, 
Real-time Microfacet Billboardling for Free-viewpoint Video Rendering, 

[C597] B. Goldluecke and M. Magnor, 
Real-time, Free-viewpoint Video Rendering from Volumetric Geometry, 

[C598] C. Petz, B. Goldluecke and M. Magnor, 
Hardware-accelerated Autostereogram Rendering for Interactive 3D Visualization, 

A system for volumetric robotic mapping of underground mines, 

[C600] D. Hähnel, R. Triebel, W. Burgard and S. Thrun, 
Map Building with Mobile Robots in Dynamic Environments, 

[C601] T. Brox and J. Weickert, 
Nonlinear matrix diffusion for optic flow estimation, 

[C602] J. Keuchel, C. Schnoerr, C. Schellewald and D. Cremers, 
Unsupervised Image Partitioning with Semidefinite Programmifng, 
D. Cremers, T. Kohlberger and C. Schnörr,
Nonlinear shape statistics in Mumford–Shah based segmentation,

D. Cremers and C. Schnörr,
Motion Competition: variational integration of motion segmentation and shape regularization,

D. Cremers and C. Schnörr,
Statistical shape knowledge in variational motion segmentation,
A. Pece, Y. N. Wu and R. Larsen (Eds.), 1st Internat. Workshop on Generative-Model-Based Vision, Copenhagen, Univ. of Copenhagen, June, 2 2002.

J. Weickert and T. Brox,
Diffusion and regularization of vector- and matrix-valued images,

B. Goldluecke, M. Magnor and B. Wilburn,
Hardware-accelerated Dynamic Light Field Rendering,

T. Brox, D. Farin and P. H. N. de With,
Multi-stage region merging for image segmentation,
Proc. 22nd Symposium on Information and Communication Theory in the Benelux, Enschede, The Netherlands, 189-196, may 2001, Received the best paper award.

D. Cremers, T. Kohlberger and C. Schnörr,
Nonlinear shape statistics via kernel spaces,

J. Keuchel, C. Schellewald, D. Cremers and C. Schnoerr,
Convex Relaxations for Binary Image Partitioning and Perceptual Grouping,
Radig, B., Flohrzycy and S. (Eds.), Pattern Recognition, Munich, Germany, Springer, LNCS, Vol. 2191, 353-360, Sept. 2001, Received a DAGM Paper Award.

D. Cremers, C. Schnörr and J. Weickert,
Diffusion Snakes: Combining statistical shape knowledge and image information in a variational framework,
N. Paragios (Ed.), IEEE First Int. Workshop on Variational and Level Set Methods, Vancouver, 137-144, 2001, Best Student Paper Award.

D. Cremers, C. Schnörr, J. Weickert and C. Schellewald,
Learning of translation invariant shape knowledge for steering diffusion snakes,
[C613] D. Cremers, C. Schnörr, J. Weickert and C. Schellewald,
Diffusion Snakes using statistical shape knowledge,

PhDThesis

[PhD1] V. Golkov,
Deep learning and variational analysis for high-dimensional and geometric biomedical data,
Department of Informatics, Technical University of Munich, Germany, 2021.

[PhD2] R. Maier,
High-Quality 3D Reconstruction from Low-Cost RGB-D Sensors,
Technische Universität München, München, Germany, 2020.

[PhD3] V Usenko,
Visual-Inertial Navigation for Autonomous Vehicles,
Technische Universität München, München, 2019.

[PhD4] J Stühlmer,
A Convex Optimization Framework for Connectivity Constraints in Image Segmentation and 3D Reconstruction,
Technische Universität München, München, 2016.

[PhD5] J. Stueckler,
Efficient Dense Registration, Segmentation, and Modeling Methods for RGB-D Environment Perception,
Faculty of Mathematics and Natural Sciences, University of Bonn, Germany, 2014.

[PhD6] K. Kolev,
Convexity in Image-Based 3D Surface Reconstruction,
Department of Computer Science, Technical University Munich, Germany, January 2012.

[PhD7] J. Sturm,
Approaches to Probabilistic Model Learning for Mobile Manipulation Robots,
University of Freiburg, Germany, May 2011, Received the Artificial Intelligence Dissertation Award 2011 (ECCAI) and the Wolfgang-Genter-Award 2011 (University of Freiburg); Finalist at the Georges-Giralt-Award 2012 (EURON); Selected for the Best Paper Track at IJCAI 2013.

[PhD8] C. Nieuwenhuis,
Restoration and Prostprocessing of Optical Flows,
Faculty of Mathematics and Computer Science, Heidelberg University, Germany, jul 2009.

[PhD9] T. Schoenemann,
Combinatorial Solutions for Shape Optimization in Computer Vision,
Department of Computer Science, University of Bonn, Germany, 2008.

[PhD10] B. Goldluecke,
Multi-Camera Reconstruction and Rendering for Free-viewpoint Video,
Max-Planck-Institute for Computer Science, Saarbrücken, Germany, jul 2006.
All: 1

List of Publications

[PhD11] T. Brox,
From pixels to regions: partial differential equations in image analysis,
Faculty of Mathematics and Computer Science, Saarland University, Germany, apr 2005.

[PhD12] D. Cremers,
Statistical shape knowledge in variational image segmentation,
Department of Mathematics and Computer Science, University of Mannheim, Germany, 2002.

MastersThesis

[M1] K. Knese,
Realizing Online (Self-)Collision Avoidance Based on Inequality Constraints with Hierarchical Inverse Kinematics,
Technical University of Munich, Germany, July 2014.

[M2] C Hazirbas,
Feature Selection and Learning for Semantic Segmentation,
Technical University Munich, Germany, June 2014.

[M3] T Schöps,
Semi-dense visual SLAM on mobile devices,
Technical University Munich, Germany, May 2014.

[M4] M. Shelley,
Monocular Visual Inertial Odometry on a Mobile Device,
Technical University Munich, Germany, Aug. 2014.

[M5] OMW Dunkley,
Visual Inertial Control of a Nano-Quadrotor,
Technical University Munich, Germany, Sept. 2014.

[M6] R. Maier,
Out-of-Core Bundle Adjustment for 3D Workpiece Reconstruction,
Technische Universität München, Germany, September 2013.

[M7] M. Brandl,
Face recognition with wave kernel signatures using a depth camera,
Technical University Munich, Germany, Aug. 2012.

[M8] C. Kerl,
Odometry from RGB-D Cameras for Autonomous Quadrocopters,
Technical University Munich, Germany, Nov. 2012.

[M9] J. Engel,
Autonomous Camera-Based Navigation of a Quadrocopter,
Technical University Munich, Germany, Dec. 2011, Distinguished with the SIEMENS award for best Master’s Thesis 2012.

[M10] M. Souiai,
Newton Methods for Total Variation Minimization,
Computer Vision Group, TU Munich, Germany, June 2010.
All: 1

List of Publications

[M11] J. Stühmer,
Ein Variationsansatz zur Schätzung von dichten Tiefenkarten im Kontext des Structure-from-Motion,
TU Dresden, Germany, Jul 2010.

[M12] E. Toeppe,
Shape Matching mittels Graph Cuts,
University of Bonn, 2008, Awarded Best Master Thesis of the Year (Bonn Society for Computer Science).

[M13] M. R. Oswald,
Reliability Estimation Methods and their Efficient Implementation,
Universidad Tecnica Federico Santa Maria, Valparaiso, Chile, Jun 2008.

[M14] M. R. Oswald,
Concurrent Stereo Reconstruction,
Technische Universität Dresden, Germany, Jun 2007.

[M15] A. Wedel,
Detektion stationärer Hindernisse in monokularen Bildsequenzen,
Computer Vision Group, University of Bonn, Germany, April 2006.

[M16] J. Sturm,
An appearance-based Visual Compass for Mobile Robots,
University of Amsterdam, the Netherlands, Dec. 2006.

[M17] T. Brox,
Smoothing of matrix-valued data,
Department of Mathematics and Computer Science, University of Mannheim, Germany, may 2002.

[M18] B. Goldluecke,
Nichtkonforme Finite Elemente und Kollokation für elliptische Randwertprobleme,

Technical Reports

[R1] M. Souiai, E. Strekalovskiy, C. Nieuwenhuis and D. Cremers,
Label Configuration Priors for Continuous Multi-Label Optimization,

[R2] A. Chambolle, D. Cremers and T. Pock,
A Convex Approach for Computing Minimal Partitions,

[R3] T. Brox, O. Kleinschmidt and D. Cremers,
Iterated and Efficient Nonlocal Means for Denoising of Textural Patterns,

[R4] A. Visser, J. Sturm, P. van Rossum, J. Westra and T. Bink,
Dutch Aibo Team: Technical Report RoboCup 2006,
[R5] T. Brox, M. Rousson, R. Deriche and J. Weickert,  
Colour, texture, and motion in level set based segmentation and tracking,  
Technical report 147, Dept. of Mathematics, Saarland University, Saarbrücken, Germany,  
aug 2005.

[R6] B. Rosenhahn, U. Kersting, L. He, A. Smith, T. Brox, R. Klette and H. P. Seidel,  
A silhouette based human motion tracking system,  

[R7] J. Sturm, A. Visser and N. Wijngaards,  
Dutch Aibo Team: Technical Report RoboCup 2005,  

[R8] D. Cremers, C. Schnörr, J. Weickert and C. Schellewald,  
Diffusion Snakes using statistical shape knowledge,  