Keywords: Shape

List of Publications

2021
Conference and Workshop Papers
[C1] M Gao, Z Lähner, J Thunberg, D Cremers and F Bernard,
Isometric Multi-Shape Matching,

2020
Conference and Workshop Papers
[C1] R. Wang, N. Yang, J. Stueckler and D. Cremers,
DirectShape: Photometric Alignment of Shape Priors for Visual Vehicle Pose and Shape Estimation,
[C2] M. Eisenberger and D. Cremers,
Hamiltonian Dynamics for Real-World Shape Interpolation,
European Conference on Computer Vision (ECCV), 2020, Spotlight Presentation.
[C3] B Holzschuh, Z Lähner and D Cremers,
Simulated Annealing for 3D Shape Correspondence,
[C4] M Aygün, Z Lähner and D Cremers,
Unsupervised Dense Shape Correspondence using Heat Kernels,

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

2016
Conference and Workshop Papers
[C1] 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.
SHREC’16: Matching of Deformable Shapes with Topological Noise,
Proc. of Eurographics Workshop on 3D Object Retrieval (3DOR), May 2016.
[C3] L. Cosmo, E. Rodola, M. M. Bronstein, A. Torsello, D. Cremers and Y. Sahillioglu,
SHREC’16: Partial Matching of Deformable Shapes,
Proc. of Eurographics Workshop on 3D Object Retrieval (3DOR), May 2016.
2015
Journal Articles

[J1] A. Albarelli, E. Rodola and A. Torsello,
Fast and Accurate Surface Alignment through an Isometry-Enforcing Game,

Conference and Workshop Papers

[C1] J. Stühmer and D. Cremers,
A Fast Projection Method for Connectivity Constraints in Image Segmentation,

2013
Journal Articles

[J1] E. Rodola, A. Albarelli, F. Bergamasco and A. Torsello,
A Scale Independent Selection Process for 3D Object Recognition in Cluttered Scenes,

Conference and Workshop Papers

[C1] 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.

2012
Conference and Workshop Papers

[C1] E. Rodola, A.M. Bronstein, A. Albarelli, F. Bergamasco and A. Torsello,
A game-theoretic approach to deformable shape matching,

2011
Book Chapters

[BC1] D. Cremers,
Image Segmentation with Shape Priors: Explicit Versus Implicit Representations,

Conference and Workshop Papers

[C1] A. Albarelli, E. Rodola and A. Torsello,
A Non-Cooperative Game for 3D Object Recognition in Cluttered Scenes,
International Conference on 3D Imaging, Modeling, Processing, Visualization and Transmission (3DIMPVT), 252-259, 2011.
Keywords: Shape

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[C2] A. Torsello, E. Rodola and A. Albarelli,
Sampling Relevant Points for Surface Registration,

[C3] 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.

2010
Conference and Workshop Papers

[C1] A. Albarelli, E. Rodola and A. Torsello,
A Game-Theoretic Approach to Fine Surface Registration without Initial Motion Estimation,

2009
Journal Articles

[J1] T. Brox, B. Rosenhahn, J. Gall and D. Cremers,
Combined region- and motion-based 3D tracking of rigid and articulated objects,

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[C1] F. R. Schmidt and D. Cremers,
A Closed-Form Solution for Image Sequence Segmentation with Dynamical Shape Priors,
*Pattern Recognition (Proc. DAGM)*, Jena, Germany, September 2009.

[C2] F. R. Schmidt, E. Toeppe and D. Cremers,
Efficient Planar Graph Cuts with Applications in Computer Vision,
*IEEE Conference on Computer Vision and Pattern Recognition (CVPR)*, Miami, Florida, 351-356, jun 2009, Received a CVPR Doctoral Spotlight Award.

2008
Journal Articles

[J1] D. Cremers,
Nonlinear Dynamical Shape Priors for Level Set Segmentation,

Conference and Workshop Papers

[C1] D. Cremers, F. R. Schmidt and F. Barthel,
Shape Priors in Variational Image Segmentation: Convexity, Lipschitz Continuity and Globally Optimal Solutions,
Keywords: Shape

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[C2] 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,

2007
Journal Articles

[J1] D. Cremers, M. Rousson and R. Deriche,
A review of statistical approaches to level set segmentation: integrating color, texture, motion and shape,

Book Chapters

[BC1] D. Cremers and M. Rousson,
Efficient kernel density estimation of shape and intensity priors for level set segmentation,

Conference and Workshop Papers

[C1] T. Schoenemann and D. Cremers,
Globally Optimal Image Segmentation with an Elastic Shape Prior,

[C2] F. R. Schmidt, D Farin and D. Cremers,
Fast Matching of Planar Shapes in Sub-cubic Runtime,

[C3] F. R. Schmidt, E. Toeppe, D. Cremers and Y. Boykov,
Intrinsic Mean for Semimetrical Shape Retrieval via Graph Cuts,

[C4] F. R. Schmidt, E. Toeppe, D. Cremers and Y. Boykov,
Efficient Shape Matching via Graph Cuts,

[C5] D. Cremers,
Nonlinear Dynamical Shape Priors for Level Set Segmentation,
Keywords: Shape  
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2006
Journal Articles

[J1] D. Cremers, 
Dynamical statistical shape priors for level set based tracking, 

[J2] S. Manay, D. Cremers, B.-W. Hong, A. Yezzi and S. Soatto, 
Integral invariants for shape matching, 

Conference and Workshop Papers

[C1] F. R. Schmidt, M. Clausen and D. Cremers, 
Shape Matching by Variational Computation of Geodesics on a Manifold, 

[C2] D. Cremers and L. Grady, 
Statistical priors for combinatorial optimization: efficient solutions via Graph Cuts, 

[C3] T. Kohlberger, D. Cremers, M. Rousson and R. Ramaraj, 
4D shape priors for level set segmentation of the left myocardium in SPECT sequences, 

2005
Conference and Workshop Papers

[C1] D. Cremers and G. Funka-Lea, 
Dynamical statistical shape priors for level set based tracking, 

[C2] S. Manay, D. Cremers, A. J. Yezzi and S. Soatto, 
One-shot integral invariant shape priors for variational segmentation, 

[C3] M. Rousson and D. Cremers, 
Efficient kernel density estimation of shape and intensity priors for level set segmentation, 
Keywords: Shape

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2004
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[C1] T. Brox, A. Bruhn, N. Papenberg and J. Weickert,
High accuracy optical flow estimation based on a theory for warping,

[C2] D. Cremers, S. J. Osher and S. Soatto,
Kernel density estimation and intrinsic alignment for knowledge-driven segmentation: Teaching level sets to walk,

[C3] D. Cremers, N. Sochen and C. Schnörr,
Multiphase dynamic labeling for variational recognition-driven image segmentation,

2003
Journal Articles

[J1] D. Cremers, T. Kohlberger and C. Schnörr,
Shape Statistics in Kernel Space for Variational Image Segmentation,

Conference and Workshop Papers

[C1] D. Cremers and S. Soatto,
A pseudo-distance for shape priors in level set segmentation,

[C2] D. Cremers, N. Sochen and C. Schnörr,
Towards Recognition-based Variational Segmentation Using Shape Priors and Dynamic Labeling,

2002
Journal Articles

[J1] D. Cremers, F. Tischhäuser, J. Weickert and C. Schnörr,
Diffusion Snakes: Introducing statistical shape knowledge into the Mumford–Shah functional,

Conference and Workshop Papers
Keywords: Shape

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[C1] D. Cremers, T. Kohlberger and C. Schnörr,
Nonlinear shape statistics in Mumford–Shah based segmentation,

2000
Conference and Workshop Papers

[C1] D. Cremers, C. Schnörr, J. Weickert and C. Schellewald,
Learning of translation invariant shape knowledge for steering diffusion snakes,

[C2] D. Cremers, C. Schnörr, J. Weickert and C. Schellewald,
Diffusion Snakes using statistical shape knowledge,