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.
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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

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[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

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[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,
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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
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[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
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[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,

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[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,
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[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,

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[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,
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2004
Conference and Workshop Papers

[C1] 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, Received 'The Longuet-Higgins Best Paper Award'.

[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,

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Shape Statistics in Kernel Space for Variational Image Segmentation,

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[C1] D. Cremers and S. Soatto,
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[C2] D. Cremers, N. Sochen and C. Schnörr,
Towards Recognition-based Variational Segmentation Using Shape Priors and Dynamic Labeling,

2002
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[J1] D. Cremers, F. Tischhäuser, J. Weickert and C. Schnörr,
Diffusion Snakes: Introducing statistical shape knowledge into the Mumford–Shah functional,

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[C1] D. Cremers, T. Kohlberger and C. Schnörr,
Nonlinear shape statistics in Mumford–Shah based segmentation,
A. Heyden and others(Eds.), European Conference on Computer Vision (ECCV), Copen-

2000
Conference and Workshop Papers

[C1] D. Cremers, C. Schnörr, J. Weickert and C. Schellewald,
Learning of translation invariant shape knowledge for steering diffusion sna-
kes,
G. Baratoff and H. Neumann(Eds.), Dynamische Perzeption, Ulm Germany, Infix, Pro-

[C2] D. Cremers, C. Schnörr, J. Weickert and C. Schellewald,
Diffusion Snakes using statistical shape knowledge,
C. Sommer and Y.Y. Zeevi(Eds.), Algebraic Frames for the Perception-Action Cycle, Kiel,