Zorah Lähner
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zorah.github.io

ZORAH **LÄHNER**

ACADEMIC EXPERIENCE

since Feb 2021	**Postdoctoral Researcher** supervisor: Prof. Dr. Michael Moeller	University of Siegen, Germany
Nov 2015 - Jan 2021	**Researcher/PhD Candidate** funded under the ERC Consolidator Grant "3D Reloaded" supervisor: Prof. Dr. Daniel Cremers	Technical University Munich, Germany
Sep 2019 - Dec 2019	**Research Intern** supervisor: Dr. Roberto Mecca	Toshiba Research Europe, Cambridge, UK
May 2019 - Jun 2019	**DAAD Short-Term Scholarship for PhD Students** supervisor: Prof. Dr. Emanuele Rodolà	Sapienza Università di Roma, Italy
Sep 2017 - Feb 2018	**Research Intern** resulted in a patent and a publication at ECCV 2018 supervisor: Dr. Tony Tung	Facebook Reality Labs, Sausalito, US
Mar 2017	**Visiting Researcher** resulted in a publication at 3DV 2017 supervisor: Prof. Dr. Alex Bronstein	Technion Israel Institute of Technology, Israel
Feb 2015 - Nov 2015	**Student Researcher** resulted in a publication at CVPR 2016 supervisor: Prof. Dr. Emanuele Rodolà	Technical University Munich, Germany

EDUCATION

Nov 2015 - Apr 2021	**Ph.D. in Computer Science (summa cum laude)** supervisor: Prof. Dr. Daniel Cremers · Dissertation title: Continuous Correspondence of Non-Rigid 3D Shapes
Apr 2013 - Oct 2015	**M.Sc. in Computer Science with distinction** Final Grade: (1.3 / 1.0) · Minor: Mathematics
Oct 2009 - Mar 2013	**B.Sc. in Computer Science** Final Grade: (1.6 / 1.0) · Minor: Physics and Astronomy

PUBLICATIONS (selection)

Conference papers in computer vision normally have more impact than journal publications. Authors are ordered by their contribution. All publications are peer-reviewed.

[ECCV 2022] **Intrinsic Neural Fields: Learning Functions on Manifolds**
Lukas Koestler*, Daniel Grittner*, Michael Moeller, Daniel Cremers, **Zorah Lähner**.
Proc. of European Conference on Computer Vision (ECCV), 2022.

[ICCV 2021] **Q-Match: Iterative Shape Matching via Quantum Annealing**
Marcel Seelbach Benker, **Zorah Lähner**, Vladislav Golyanik, Christof Wunderlich, Christian Theobalt, Michael Moeller.
Proc. of International Conference on Computer Vision (ICCV), 2021.

[CVPR 2021] **Isometric Multi-Shape Matching**
Maolin Gao, **Zorah Lähner**, Johan Thunberg, Daniel Cremers, Florian Bernard.
Proc. of IEEE Conference on Computer Vision and Pattern Recognition (CVPR), 2021.

[3DV 2020] **Simulated Annealing for 3D Shape Correspondence**
Benjamin Holzschuh, **Zorah Lähner**, Daniel Cremers.
Proc. of Intl. Conference on 3D Vision (3DV),2020.

[CVPR 2020] **Smooth Shells: Multi-Scale Shape Registration with Functional Maps**
Marvin Eisenberger, **Zorah Lähner**, Daniel Cremers.
Proc. of IEEE Conference on Computer Vision and Pattern Recognition (CVPR),2020.

[SGP 2019] **Divergence-Free Shape Correspondence by Deformation**
Marvin Eisenberger, **Zorah Lähner**, Daniel Cremers.
Computer Graphics Forum (Proc. of Symposium on Geometry Processing),2019.

[CGF 2019] **Functional Map Representation on Product Manifolds**
Emanuele Rodolà, **Zorah Lähner**, Alex M. Bronstein, Michael M. Bronstein, Justin Solomon.
Computer Graphics Forum, 2019.

[ECCV 2018] **DeepWrinkles: Accurate and Realistic Clothing Modeling**
Zorah Lähner, Daniel Cremers, Tony Tung.
Proc. of European Conference on Computer Vision (ECCV), 2018.

[3DV 2017] **Efficient Deformable Shape Correspondence via Kernel Matching**
Matthias Vestner*, **Zorah Lähner***, Amit Boyarski*, Or Litany, Ron Slossberg, Tal Remez, Emanuele Rodolà, Alex M. Bronstein, Michael M. Bronstein, Ron Kimmel.
Proc. of Intl. Conference on 3D Vision (3DV), 2017.

[CVPR 2016] **Efficient Globally Optimal 2D-to-3D Deformable Shape Matching**
Zorah Lähner, Emanuele Rodolà, Frank R. Schmidt, Michael M. Bronstein, Daniel Cremers.
Proc. of IEEE Conference on Computer Vision and Pattern Recognition (CVPR), 2016.

FUNDING

MKW NRW	**KI-Starter grant 2022-2024** 2 year project "Robust Geometric Deep Learning"	170k Euros
DAAD	**Short-Term Scholarship for PhD students** funding a two month reseach visit at Sapienza Università di Roma	3k Euros

REVIEW ACTIVITIES (selection)

Conferences	CVPR 2016-2022 • BMVC 2016-2018 • 3DV 2016-2022 • ICCV 2019 - 2021 • NeurIPS 2019-2020 • ECCV 2020-2022 • SIGGRAPH 2020 - 2021 • ICLR 2021 • WACV 2021
Workshops	MVR3D 2017 (ICCV) • GMDL 2017-2018 (ICCV/ECCV) • 3DRWi 2018 (ECCV)
Journals	JVCI • IJCV • JMIV

Outstanding Reviewer Award at 3DV 2021

COMMITTEES

STAG 2021	**Best Thesis Award Committee** Matteo Dellepiane Award ·
FGML 2021	**Program and Website Chair** French-German Machine Learning Symposium ·

INVITED TALKS (selection)

Jan 2021	**Max Planck Institute Tübingen** Non-Rigid Shape Correspondence Through Deformation	invited by Dr. Jinlong Yang
Oct 2020	**University of Siegen** Continuity in Non-Rigid Correspondence	Women in Vision Siegen
May 2020	**Ecole Polytechnique Paris (virtual)** Smooth Shells: Multi-Scale Shape Registration with Functional Maps	invited by Prof. Dr. Maks Ovsjanikov
May 2019	**Sapienza Università di Roma** Divergence-Free Correspondence by Deformation	invited by Prof. Dr. Emanuele Rodolà
Feb 2019	**Max Planck Institute Saarbrücken** DeepWrinkles: Accurate and Realistic Cloth Modeling	invited by Dr. Gerard Pons-Moll
Aug 2018	**Symposium on Geometry and Uncertainty in Deep Learning** Accurate and Realistic Cloth Modeling with Real-Data	Rank Prize Funds
Jul 2018	**Workshop on Machine Learning for 3D Understanding** Accurate and Realistic Cloth Modeling with Real-Data	TUM Institute for Advanced Studies
Jan 2017	**Dagstuhl Seminar 17021 on Functoriality in Geometric Data** Efficient Globally Optimal 2D-to-3D Deformable Shape Matching	Leibniz Center for Informatics
Feb 2016	**Stanford University** Efficient Globally Optimal 2D-to-3D Deformable Shape Matching	invited by Prof. Dr. Leonidas Guibas

TEACHING (selection)

SS 2022	**Introduction to Visual Computing** Teaching Assistant, Lecture for computer science bachelor students (10 students)	University of Siegen
WS 2021/22	**Deep Learning** Teaching Assistant, Lecture for computer science and mechanical engineering master students (50 students)	University of Siegen
WS 2020/21	**Recent Advances in 3D Computer Vision** Organizer, Seminar for computer science master students (15 participants)	Technical University Munich
SS 2020	**Shape Analysis and Applications in Computer Vision** Organizer, Seminar for computer science master students (15 participants)	Technical University Munich
WS 2018/19	**Diskrete Strukturen** Teaching Assistant, Lecture for computer science bachelor students (50 students)	Technical University Munich
SS 2016 & 2017	**Analysis of Three-Dimensional Shapes** Teaching Assistant, Lecture for computer science master students (15-20 students)	Technical University Munich
SS 2016	**Shape Analysis and Applications in Computer Vision** Organizer, Seminar for computer science master students (18 participants)	Technical University Munich
WS 2016/17	**Logik und Diskrete Strukturen** Teaching Assistant, Lecture for computer science bachelor students (30 students)	University of Bonn

SUPERVISED STUDENT PROJECTS (selection)

Master's Thesis	**Unsupervised Learning for Non-Rigid Deformations in 3D Shapes** Sharik Siddiqi, Mechanical Engineering, 2022
Bachelor's Thesis	**Intrinsic Neural Fields for Visual Computing on Manifolds** Daniel Grittner, Computer Science, 2022 resulted in a publication at ECCV 2022
Master's Thesis	**Machine Learning-Based Electroanatomical Mapping of the Heart with Generation of 3D Reconstructions from Biosignals Only** Alessa Grund, Biomedical Computing, in cooperation with Ablacon, 2022
Master's Thesis	**Automatic Generation of 3D Brick Models** Mohammad Khan, Computer Science, 2022
Master's Thesis	**GPS in the Heart - Towards a Purely Biosignal Based Intracardiac Navigation System** Mehmet Aygün, Computer Science, 2020 resulted in publication at 3DV 2020
Guided Research	**A Probabilistic Algorithm for Shape Correspondence Problems** Benjamin Holzschuh, Computer Science, 2020 resulted in publication at 3DV 2020
Interdisciplinary Project	**Minimum Distortion Conformal Mappings onto 3D Triangle Meshes** Nina Avramova, Computer Science, 2017