## List of Publications

### 2022

#### Journal Articles

[J1] C Tomani and D Cremers,  
**Challenger: Training with Attribution Maps**,  

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

#### Conference and Workshop Papers

[C1] 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.

[C2] F Müller, Q Khan and D Cremers,  
**Lateral Ego-Vehicle Control Without Supervision Using Point Clouds**,  

[C3] L Hang, Q Khan, V Tresp and D Cremers,  
**Biologically Inspired Neural Path Finding**,  
*Brain Informatics (Accepted)*, Springer, 2022.

[C4] D Das, Q Khan and D Cremers,  
**Ventriloquist-Net: Leveraging Speech Cues for Emotive Talking Head Generation**,  
*IEEE International Conference on Image Processing (Accepted)*, 2022.

[C5] HHH Hsu, Y Shen, C Tomani and D Cremers,  
**What Makes Graph Neural Networks Miscalibrated?**,  
*NeurIPS*, 2022.

[C6] Y Shen and D Cremers,  
**Deep Combinatorial Aggregation**,  
*NeurIPS*, 2022.

[C7] HHH Hsu, Y Shen and D Cremers,  
**A Graph Is More Than Its Nodes: Towards Structured Uncertainty-Aware Learning on Graphs**,  

### 2021

#### Journal Articles

[J1] P. Müller, V. Golkov, V. Tomassini and D. Cremers,  
**Rotation-Equivariant Deep Learning for Diffusion MRI**,  
Keywords: Deep Learning

List of Publications

[J2] M. Mozes, M. Schmitt, V. Golkov, H. Schütze and D. Cremers, 
Scene Graph Generation for Better Image Captioning?,

Conference and Workshop Papers

[C1] 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, 

[C2] 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.

[C3] 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.

[C4] 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 Pre-
sentation.

[C5] P. Wenzel, T. Schönh, L. Leal-Taixe and D. Cremers, 
Vision-Based Mobile Robotics Obstacle Avoidance With Deep Reinforcement 
Learning, 
Proceedings of the IEEE International Conference on Robotics and Automation (ICRA), 
2021.

[C6] C Tomani and F Buettner, 
Towards Trustworthy Predictions from Deep Neural Networks with Fast Ad-
versarial Calibration, 
InThirty-FifthAAAIConferenceonArtificialIntelligence(AAAI-2021), 2021.

[C7] C Tomani, S Gruber, ME Erdem, D Cremers and F Buettner, 
Post-hoc Uncertainty Calibration for Domain Drift Scenarios, 
IEEE Conference on Computer Vision and Pattern Recognition (CVPR), 2021, Oral Pre-
sentation.

[C8] D Schnaus, J Lee and R Triebel, 
Kronecker-Factored Optimal Curvature, 

[C9] Y Wang, Y Shen and D Cremers, 
Explicit pairwise factorized graph neural network for semi-supervised node 
classification, 
UAI, 2021.

PhDThesis
Keywords: Deep Learning

List of Publications

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

2020
Journal Articles

[J1] V. Golkov, A. Becker, D. T. Plop, D. Cuturilo, N. Davoudi, J. Mendenhall, R. Moretti, J. Meiler and D. Cremers,
Deep Learning for Virtual Screening: Five Reasons to Use ROC Cost Functions,

[J2] L. von Stumberg, P. Wenzel, Q. Khan and D. Cremers,
GN-Net: The Gauss-Newton Loss for Multi-Weather Relocalization,

[J3] G Fabbro, V Golkov, T Kemp and D Cremers,
Speech Synthesis and Control Using Differentiable DSP,

[J4] I Chiotellis and D Cremers,
Neural Online Graph Exploration,

Conference and Workshop Papers

[C1] 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,

[C2] N. Yang, L. von Stumberg, R. Wang and D. Cremers,
D3VO: Deep Depth, Deep Pose and Deep Uncertainty for Monocular Visual Odometry,

[C3] 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.

4Seasons: A Cross-Season Dataset for Multi-Weather SLAM in Autonomous Driving,

[C5] L. von Stumberg, P. Wenzel, N. Yang and D. Cremers,
LM-Reloc: Levenberg-Marquardt Based Direct Visual Relocalization,
2019

Journal Articles


Conference and Workshop Papers


2018

Journal Articles


Conference and Workshop Papers

Keywords: Deep Learning

List of Publications

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

[C3] B. T. Do, V. Golkov, G. E. Gürel and D. Cremers,
Precursor microRNA Identification Using Deep Convolutional Neural Networks,

[C4] P. Haeusser, J. Plapp, V. Golkov, E. Aljabout and D. Cremers,
Associative Deep Clustering - Training a Classification Network with no Labels,
Proc. of the German Conference on Pattern Recognition (GCPR), October 2018.

[C5] 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.

[C6] 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.

2017

Journal Articles

[J1] J. Kukacka, V. Golkov and D. Cremers,
Regularization for Deep Learning: A Taxonomy,

Conference and Workshop Papers

[C1] F. Walch, C. Hazirbas, L. Leal-Taixe, T. Sattler, S. Hilsenbeck and D. Cremers,
Image-based localization using LSTMs for structured feature correlation,

Establishment of an interdisciplinary workflow of machine learning-based Radiomics in sarcoma patients,

[C3] P. Haeusser, A. Mordvintsev and D. Cremers,
Learning by Association - A versatile semi-supervised training method for neural networks,
Keywords: Deep Learning

List of Publications

[C4] 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.

[C6] K. Kurach, S. Gelly, M. Jastrzebski, P. Haeusser, O. Teytaud, D. Vincent and O. Bousquet,
Better Text Understanding Through Image-To-Text Transfer,

[C7] P. Haeusser, T. Frerix, A. Mordvintsev and D. Cremers,
Associative Domain Adaptation,

2016

Journal Articles

[J1] V. Golkov, A. Dosovitskiy, J. I. Sperl, M. I. Menzel, M. Czisch, P. Sämann, T. Brox and D. Cremers,
q-Space Deep Learning: Twelve-Fold Shorter and Model-Free Diffusion MRI Scans,

Conference and Workshop Papers

[C1] 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%).

[C2] C. Hazirbas, L. Ma, C. Domokos and D. Cremers,
, 
*Asian Conference on Computer Vision*, november 2016.

[C3] S. Sharifzadeh, I. Chiotellis, R. Triebel and D. Cremers,
Learning to Drive using Inverse Reinforcement Learning and Deep Q-Networks,
*NIPS Workshops*, December 2016.

2015

Conference and Workshop Papers

q-Space Deep Learning for Twelve-Fold Shorter and Model-Free Diffusion MRI Scans,
[C2] 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.

[C3] 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.