Keywords: Deep Learning

List of Publications

2021

Journal Articles

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

[J2] C Tomani, D Cremers and F Buettner,
Parameterized Temperature Scaling for Boosting the Expressive Power in
Post-Hoc Uncertainty Calibration,

[J3] 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. Schön, 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),
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[C6] C Tomani and F Buettner,
Towards Trustworthy Predictions from Deep Neural Networks with Fast Ad-
versarial Calibration,
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[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.
Keywords: Deep Learning

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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.

2020
Journal Articles

[J1] V. Golkov, A. Becker, D. T. Plop, D. 38;268uturilo, 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,
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Journal Articles

[J1] F. Pasa, V. Golkov, F. Pfeiffer, D. Cremers and D. Pfeiffer,
Efficient Deep Network Architectures for Fast Chest X-Ray Tuberculosis Screening and Visualization,

[J2] J. Schuchardt, V. Golkov and D. Cremers,
Learning to Evolve,

[J3] L. Della Libera, V. Golkov, Y. Zhu, A. Mielke and D. Cremers,
Deep Learning for 2D and 3D Rotatable Data: An Overview of Methods,

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[C1] 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.

[C2] P. Swazinna, V. Golkov, I. Lipp, E. Sgarlata, V. Tomassini, D. K. Jones and D. Cremers,
Negative-Unlabeled Learning for Diffusion MRI,

[C3] Q. Khan, P. Wenzel, D. Cremers and L. Leal-Taixe,
Towards Generalizing Sensorimotor Control Across Weather Conditions,

2018
Journal Articles

[J1] E. Aljalbout, V. Golkov, Y. Siddiqui, M. Strobel and D. Cremers,
Clustering with Deep Learning: Taxonomy and New Methods,

[J2] 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?,

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[C1] 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.
Keywords: Deep Learning

List of Publications


2017

Journal Articles


Conference and Workshop Papers


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,

[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,
IEEE Transactions on Medical Imaging, 35: 2016, Special Issue on Deep Learning.

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,
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2015
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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.
[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.