Michael Niemeyer

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Education

Max Planck Institute for Intelligent Systems	*Tübingen, Germany*
PhD (summa cum laude) in Computer Science - superised by Prof. Dr. Andreas Geiger	2018 - 2022
University of St. Andrews	*St Andrews, UK*
MSc (distinction, top of class, 1.0 / 1.0) in Advanced Computer Science - focus on Machine Learning	2016 - 2017
University of Cologne	*Cologne, Germany*
BSc (distinction, 1.8 / 1.0) in Mathematics - focus on Topology	2012 - 2015

Employment

Google	*Cologne, Germany*
Research Scientist	2022 - now
Google	*Berlin, Germany*
Research Scientist Intern and Student Researcher	Summer 2021 - Winter 2021
University of Tübingen	*Tübingen, Germany*
Ph.D. Student and Academic Assistant	2018 - 2022
Sentia Pty Ltd	*Sydney, Australia*
Front-End Developer	Summer 2017 - Winter 2017
ecoprog GmbH	*Cologne, Germany*
Student Researcher	2015 - 2016
St.-Antonius Hospital	*Kleve, Germany*
IT Intern	Summer 2011, Summer 2013

Awards and Honors

2022	**CVPR Outstanding Reviewer Award** for reviewing efforts
2021	**CVPR Best Paper Award** for our GIRAFFE project
2021	**AiGameDev Scientific Paper Award** for our GRAF project
2021	**CVPR Outstanding Reviewer Award** for reviewing efforts
2020	**Among 15 Most Influential ECCV-20 Papers** for our ConvOnet project
2020	**Among 15 Most Influential CVPR-20 Papers** for our DVR project
2019	**CS Teaching Award** for our computer vision lecture
2019	**Among 15 Most Influential CVPR-19 Papers** for our ONet project
2017	**Dean's List Award for Academic Excellence** for graduating top of class
2011	**e-fellows scholarship** for grading as top of class
2011	**German Mathematics Society scholarship** for grading as top of class
2011	**German Physics Society scholarship** for grading as top of class

Academic Services

2022	**Lead Teaching Assistant** for the Computer Vision Lecture
2021	**Teaching Assistant** for the Computer Vision Lecture
2021	**MSc Thesis Supervisor** for Holger Heidrich (with Distinction)
2019	**Teaching Assistant** for the Machine Learning in Graphics and Vision Lecture
2018 - now	**Reviewer** for CVPR, ECCV, ICCV, NeurIPS, SIGGRAPH, SIGGRAPH Asia, ICLR, 3DV, AAAI, PAMI

Technical Skills

Languages	German (native), English (C1/C2), Spanish (basic skills)
Programming	Python, Numpy, PyTorch, JAX, OpenCV

Publications

- Francis Engelmann, Fabian Manhardt, **Michael Niemeyer**, Keisuke Tateno, Marc Pollefeys, Federico Tombari: Open-Set 3D Scene Segmentation with Rendered Novel Views. *arXiv.org*, 2023.

- Hidenobu Matsuki, Keisuke Tateno, **Michael Niemeyer**, Federic Tombari: NEWTON: Neural View-Centric Mapping for On-the-Fly Large-Scale SLAM. *arXiv.org*, 2023.

- Amit Raj, Srinivas Kaza, Ben Poole, **Michael Niemeyer**, Nataniel Ruiz, Ben Mildenhall, Shiran Zada, Kfir Aberman, Michael Rubinstein, Jonathan Barron, Yuanzhen Li, Varun Jampani: DreamBooth3D: Subject-Driven Text-to-3D Generation. *Proc. of the IEEE International Conf. on Computer Vision (ICCV)*, 2023.

- Christina Tsalicoglou, Fabian Manhardt, Alessio Tonioni, **Michael Niemeyer**, Federico Tombari. NeRFMeshing: TextMesh: Generation of Realistic 3D Meshes From Text Prompts. *Proc. of the International Conf. on 3D Vision (3DV)*, 2023.

- Marie-Julie Rakotosaona, Fabian Manhardt, Diego Martin Arroyo, **Michael Niemeyer**, Abhijit Kundu, Federico Tombari. NeRFMeshing: Distilling Neural Radiance Fields into Geometrically-Accurate 3D Meshes. *Proc. of the International Conf. on 3D Vision (3DV)*, 2023.

- Zehao Yu, Anpei Chen, Bozidar Antic, Songyou Peng, Apratim Bhattacharyya, **Michael Niemeyer**, Siyu Tang, Torsten Sattler, Andreas Geiger. SDFStudio: A Unified Framework for Surface Reconstruction. *Open-Source Project*, 2022.

- Zehao Yu, Songyou Peng, **Michael Niemeyer**, Torsten Sattler, Andreas Geiger. MonoSDF: Exploring Monocular Geometric Cues for Neural Implicit Surface Reconstruction. *Advances in Neural Information Processing Systems (NeurIPS)*, 2022.

- Katja Schwarz, Axel Sauer, **Michael Niemeyer**, Yiyi Liao, Andreas Geiger. VoxGRAF: Fast 3D-Aware Image Synthesis with Sparse Voxel Grids. *Advances in Neural Information Processing Systems (NeurIPS)*, 2022.

- **Michael Niemeyer**, Jonathan T. Barron, Ben Mildenhall, Mehdi S. M. Sajjadi, Andreas Geiger, Noha Radwan. RegNeRF: Regularizing Neural Radiance Fields for View Synthesis from Sparse Inputs. *Proc. IEEE Conf. on Computer Vision, Pattern Recognition (CVPR)*, 2022. **Oral Presentation.**

- **Michael Niemeyer**,, Andreas Geiger. CAMPARI: Camera-Aware Decomposed Generative Neural Radiance Fields. *Proc. of the International Conf. on 3D Vision (3DV)*, 2021.

- Songyou Peng, Chiyu Jiang, Yiyi Liao, **Michael Niemeyer**, Marc Pollefeys,, Andreas Geiger. Shape As Points: A Differentiable Poisson Solver. *Advances in Neural Information Processing Systems (NeurIPS)*, 2021. **Oral Presentation.**

- **Michael Niemeyer**,, Andreas Geiger. Giraffe: Representing scenes as compositional generative neural feature fields. *Proc. IEEE Conf. on Computer Vision, Pattern Recognition (CVPR)*, 2021. **Oral Presentation, Best Paper Award.**

- Michael Oechsle, **Michael Niemeyer**, Christian Reiser, Lars Mescheder, Thilo Strauss,, Andreas Geiger. Learning Implicit Surface Light Fields. *Proc. of the International Conf. on 3D Vision (3DV)*, 2020.

- Katja Schwarz, Yiyi Liao, **Michael Niemeyer**,, Andreas Geiger. GRAF: Generative Radiance Fields for 3D-Aware Image Synthesis. *Advances in Neural Information Processing Systems (NeurIPS)*, 2020.

- Songyou Peng, **Michael Niemeyer**, Lars Mescheder, Marc Pollefeys,, Andreas Geiger. Convolutional Occupancy Networks. *Proc. of the European Conf. on Computer Vision (ECCV)*, 2020. **Spotlight Presentation.**

- **Michael Niemeyer**, Lars Mescheder, Michael Oechsle,, Andreas Geiger. Differentiable volumetric rendering: learning implicit 3d representations without 3d supervision. *Proc. IEEE Conf. on Computer Vision, Pattern Recognition (CVPR)*, 2020.

- **Michael Niemeyer**, Lars Mescheder, Michael Oechsle,, Andreas Geiger. Occupancy flow: 4d reconstruction by learning particle dynamics. *Proc. of the IEEE International Conf. on Computer Vision (ICCV)*, 2019.

- Michael Oechsle, Lars Mescheder, **Michael Niemeyer**, Thilo Strauss,, Andreas Geiger. Texture fields: Learning texture representations in function space. *Proc. of the IEEE International Conf. on Computer Vision (ICCV)*, 2019. **Oral Presentation.**

- Lars Mescheder, Michael Oechsle, **Michael Niemeyer**, Sebastian Nowozin,, Andreas Geiger. Occupancy networks: Learning 3d reconstruction in function space. *Proc. IEEE Conf. on Computer Vision, Pattern Recognition (CVPR)*, 2019. **Oral Presentation, Best Paper Finalist.**

- **Michael Niemeyer**,, Ognjen Arandjelović. Automatic Semantic Labelling of Images by Their Content Using Non-Parametric Bayesian Machine Learning, Image Search Using Synthetically Generated Image Collages. *Proc. IEEE Conf. on Data Science, Advanced Analytics (DSAA)*, 2018.

Talks

- Neural Scene Representations and Differentiable Rendering. *Delft University of Technology*, 2022.

- Implicit Neural Scene Representations and 3D-Aware Generative Modelling. *GAMES Webinar Series*, 2022.

- Generative Neural Scene Representations. *Adobe Research*, 2021.

- Implicit Scene Representations and Neural Rendering. *Technical University Munich - AI Lecture Series*, 2021.

- Generative Neural Scene Representations for 3D-Aware Image Synthesis. *ETH AIT*, 2021.

- Generative Neural Scene Representations for 3D-Aware Image Synthesis. *Amazon Research*, 2021.

- Generative Neural Scene Representations for 3D-Aware Image Synthesis. *Massachusetts Institute of Technology*, 2021.

- KI Forschung und 3D Deep Learning. *Frauenhofer IAO event 100 KI Talents*, 2020.

- 3D Deep Learning in Function Space. *NVIDIA GPU Technology Conference (GTC)*, 2020.