

Michael Niemeyer

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Education

Max Planck Institute for Intelligent Systems

PhD (summa cum laude) in Computer Science supervised by Prof. Dr. A. Geiger

Tübingen, Germany

2018 - 2022

University of St. Andrews

MSc (top of class, 1.0 / 1.0) in Computer Science supervised by Prof. Dr. O. Arandjelović

St Andrews, UK

2016 - 2017

University of Cologne

BSc (distinction, 1.8 / 1.0) in Mathematics supervised by Prof. Dr. A. Lytchak

Cologne, Germany

2012 - 2015

Employment

Google

Research Scientist

Zurich, Switzerland

2022 - now

Research Scientist Intern and Student Researcher

Summer 2021 - Winter 2021

University of Tübingen

Ph.D. Student and Academic Assistant

Tübingen, Germany

2018 - 2022

Sentia Pty Ltd

Front-End Developer

Sydney, Australia

Summer 2017 - Winter 2017

ecoprogram GmbH

Student Researcher

Cologne, Germany

2015 - 2016

St.-Antonius Hospital

IT Intern

Kleve, Germany

Summer 2011, Summer 2013

Awards and Honors

2024	Südwestmetall Förderpreis Thesis Award for outstanding thesis
2023	CVPR Outstanding Reviewer Award for reviewing efforts
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

2024	Area Chair for ECCV
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

Publications

- **Michael Niemeyer**, Fabian Manhardt, Marie-Julie Rakotosaona, Michael Oechsle, Daniel Duckworth, Rama Gosula, Keisuke Tateno, John Bates, Dominik Kaeser, and Federico Tombari. RadSplat: Radiance Field-Informed Gaussian Splatting for Robust Real-Time Rendering with 900+ FPS. *arXiv.org*, (2024).
- Yunus, Raza, Jan Eric Lenssen, **Michael Niemeyer**, Yiyi Liao, Christian Rupprecht, Christian Theobalt, Gerard Pons-Moll, Jia-Bin Huang, Vladislav Golyanik, and Eddy Ilg. Recent Trends in 3D Reconstruction of General Non-Rigid Scenes. *In Computer Graphics Forum*, 2024.
- Mohamad Shahbazi, Liesbeth Claessens, **Michael Niemeyer**, Edo Collins, Alessio Tonioni, Luc Van Gool, and Federico Tombari. InseRF: Text-Driven Generative Object Insertion in Neural 3D Scenes. *arXiv.org*, (2024).
- Fangjinhua Wang, Marie-Julie Rakotosaona, **Michael Niemeyer**, Richard Szeliski, Marc Pollefeys, Federico Tombari. UniSDF: Unifying Neural Representations for High-Fidelity 3D Reconstruction of Complex Scenes with Reflections. *arXiv.org*, 2023.
- Kunyi Li, **Michael Niemeyer**, Nassir Navab, Federico Tombari. DNS SLAM: Dense Neural Semantic-Informed SLAM. *arXiv.org*, 2023.
- 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**, Federico 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 Representations for 3D Asset Reconstruction, Generation, and Beyond. *university of Massachusetts Amherst*, 2024.
- 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. *Fraunhofer IAO event 100 KI Talents*, 2020.
- 3D Deep Learning in Function Space. *NVIDIA GPU Technology Conference (GTC)*, 2020.