

Michael Niemeyer

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Education

Max Planck Institute for Intelligent Systems

PhD in Computer Science - focus on Machine Learning and Computer Vision

Tübingen, Germany

2018 - 2022

University of St. Andrews

MSc (distinction, top of class, 1.0 / 1.0) in Advanced Computer Science - focus on Machine Learning

St Andrews, UK

2016 - 2017

University of Cologne

BSc (distinction, 1.8 / 1.0) in Mathematics - focus on Topology

Cologne, Germany

2012 - 2015

Employment

Google

Research Scientist

Cologne, Germany

2022 - now

Google

Research Scientist Intern and Student Researcher

Berlin, Germany

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

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 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

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 - 2022	Reviewer for CVPR, ECCV, ICCV, NeurIPS, SIGGRAPH, SIGGRAPH Asia, AAAI, PAMI, GCPR

Technical Skills

Languages	German (native), English (C1/C2), Spanish (basic skills)
Programming	Python, Numpy, PyTorch, JAX, OpenCV
Software	Git, LaTeX, Inkscape, Gimp, Office Suite

Publications

- Marie-Julie Rakotosaona and Fabian Manhardt and Diego Martin Arroyo and **Michael Niemeyer** and Abhijit Kundu and Federico Tombari. NeRFMeshing: Distilling Neural Radiance Fields into Geometrically-Accurate 3D Meshes. *arXiv.org*, 2023.
- Zehao Yu and Anpei Chen and Bozidar Antic and Songyou Peng and Apratim Bhattacharyya and **Michael Niemeyer** and Siyu Tang and Torsten Sattler and Andreas Geiger. SDFStudio: A Unified Framework for Surface Reconstruction. *Open-Source Project*, 2022.
- Zehao Yu and Songyou Peng and **Michael Niemeyer** and Torsten Sattler and Andreas Geiger. MonoSDF: Exploring Monocular Geometric Cues for Neural Implicit Surface Reconstruction. *Advances in Neural Information Processing Systems (NeurIPS)*, 2022.
- Katja Schwarz and Axel Sauer and **Michael Niemeyer** and Yiyi Liao and Andreas Geiger. VoxGRAF: Fast 3D-Aware Image Synthesis with Sparse Voxel Grids. *Advances in Neural Information Processing Systems (NeurIPS)*, 2022.
- **Michael Niemeyer** and Jonathan T. Barron and Ben Mildenhall and Mehdi S. M. Sajjadi and Andreas Geiger and Noha Radwan. RegNeRF: Regularizing Neural Radiance Fields for View Synthesis from Sparse Inputs. *Proc. IEEE Conf. on Computer Vision and Pattern Recognition (CVPR)*, 2022. **Oral Presentation.**
- **Michael Niemeyer**, and 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, and Andreas Geiger. Shape As Points: A Differentiable Poisson Solver. *Advances in Neural Information Processing Systems (NeurIPS)*, 2021. **Oral Presentation.**
- **Michael Niemeyer**, and Andreas Geiger. Giraffe: Representing scenes as compositional generative neural feature fields. *Proc. IEEE Conf. on Computer Vision and Pattern Recognition (CVPR)*, 2021. **Oral Presentation, Best Paper Award.**
- Michael Oechsle, **Michael Niemeyer**, Christian Reiser, Lars Mescheder, Thilo Strauss, and Andreas Geiger. Learning Implicit Surface Light Fields. *Proc. of the International Conf. on 3D Vision (3DV)*, 2020.
- Katja Schwarz, Yiyi Liao, **Michael Niemeyer**, and 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, and Andreas Geiger. Convolutional Occupancy Networks. *Proc. of the European Conf. on Computer Vision (ECCV)*, 2020. **Spotlight Presentation.**
- **Michael Niemeyer**, Lars Mescheder, Michael Oechsle, and Andreas Geiger. Differentiable volumetric rendering: learning implicit 3d representations without 3d supervision. *Proc. IEEE Conf. on Computer Vision and Pattern Recognition (CVPR)*, 2020.
- **Michael Niemeyer**, Lars Mescheder, Michael Oechsle, and 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, and 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, and Andreas Geiger. Occupancy networks: Learning 3d reconstruction in function space. *Proc. IEEE Conf. on Computer Vision and Pattern Recognition (CVPR)*, 2019. **Oral Presentation, Best Paper Finalist.**
- **Michael Niemeyer**, and Ognjen Arandjelović. Automatic Semantic Labelling of Images by Their Content Using Non-Parametric Bayesian Machine Learning and Image Search Using Synthetically Generated Image Collages. *Proc. IEEE Conf. on Data Science and 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. *Fraunhofer IAO event 100 KI Talents*, 2020.
- 3D Deep Learning in Function Space. *NVIDIA GPU Technology Conference (GTC)*, 2020.