

Moritz Kappel

Mühlenpfordtstr. 23
38106 Braunschweig
Germany

+49 (0) 173 089 4644

+49 (0) 531 391 2121

kappel@cg.cs.tu-bs.de

graphics.tu-bs.de/people/kappel



Profile

Name Moritz Kappel
Gender Male
Date of birth January 20, 1994
Place of birth Bonn, Germany
Citizenship German
Languages German (native), English (fluent)

Positions

Since Feb. 2019 **PhD candidate**, *Institute for Computer Graphics, TU Braunschweig*, Braunschweig (Germany),
Topic: Neural Reconstruction and Rendering of Dynamic Real-World Scenes.
Under the supervision of Prof. Dr.-Ing. Marcus A. Magnor.

Education

Mar. 2020 **Internship (6 months)**, *Graphics, Vision & Video Group, Max Planck Institute for Informatics (MPII)*, Saarbrücken, Germany.
Under the supervision of Prof. Dr. Christian Theobalt.

Nov. 2018 **M.Sc.**, *Technische Universität Braunschweig*, Braunschweig, Germany, *focus on visual computing*.
Master thesis: "Learning Optical Flow from Long-Exposure Images".

May. 2016 **B.Sc.**, *Technische Universität Braunschweig*, Braunschweig, Germany.
Bachelor thesis: "Dense Image-Correspondences for Reflecting Surfaces".

July 2012 **Abitur** (German high school diploma), *Friedrich-Ebert-Gymnasium*, Bonn, Germany.

Research Experience

2019 - present **Computer Graphics and Vision Researcher**, *Institut for Computer Graphics, TU Braunschweig*, Braunschweig (Germany).
Research topics including machine learning and neural rendering for virtual avatars and panorama imaging.

2016 **Research Assistant**, *Institute for Computer Graphics, TU Braunschweig, Braunschweig (Germany)*.
Research topics including stereo correspondence estimation for free viewpoint interpolation.

Teaching Experience

Teaching Assistant **TU Braunschweig, Braunschweig, Germany.**

Courses:

- Physics-Based Modeling and Simulation (Summer 2020)
- Bildbasierte Modellierung (Summer 2022)

Lecturer **TU Braunschweig, Braunschweig, Germany.**

Courses:

- Team Project (Winter 2021/2022)

Academic Service

Reviewer

- IEEE Conference on Computer Vision and Pattern Recognition (CVPR)
- IEEE International Conference on Computer Vision (ICCV)
- Eurographics Symposium on Rendering (EGSR)
- IEEE International Conference on Image Processing (ICIP)
- Symposium on Vision, Modeling, and Visualization (VMV)
- IEEE International Conference on Virtual Reality (VR)
- Pacific Conference on Computer Graphics and Applications (Pacific Graphics)

Conference Organization

- Volunteer student for Symposium on Visual Computing and Perception (SVCP) 2017.
- Local Organizing Committee for Symposium on Vision, Modeling, and Visualization (VMV) 2023.

Technical Skills

Programming Languages	Python, C++, C, Java.
Graphics and Machine Learning	PyTorch, Tensor Flow, OpenGL, OpenCV.
Miscellaneous	L^AT_EX, CMake, VS Code.

Publications

Kappel, Moritz, Vladislav Golyanik, Susana Castillo, Christian Theobalt, and Marcus Magnor. Fast Non-Rigid Radiance Fields from Monocularized Data. arXiv preprint, 2022. url: <https://arxiv.org/abs/2212.01368>.

Kappel, Moritz, Vladislav Golyanik, Mohamed Elgharib, Jann-Ole Henning-

son, Hans-Peter Seidel, Susana Castillo, Christian Theobalt, and Marcus Magnor. High-Fidelity Neural Human Motion Transfer from Monocular Video. In *IEEE/CVF Conference on Computer Vision and Pattern Recognition (CVPR)*, pages 1541–1550, June 2021. Oral presentation.

Marc Kassubeck, **Kappel, Moritz**, Susana Castillo, and Marcus Magnor. N-SfC: Robust and Fast Shape Estimation from Caustic Images. arXiv preprint, Dec 2021. url: <https://arxiv.org/abs/2112.06705>.

Moritz Mühlhausen, **Kappel, Moritz**, Marc Kassubeck, Paul M. Bittner, Susana Castillo, and Marcus Magnor. Temporal consistent motion parallax for omnidirectional stereo panorama video. In *Proceedings of the 26th ACM Symposium on Virtual Reality Software and Technology, VRST '20*, New York, NY, USA, 2020. Association for Computing Machinery.

Tobias Bertel, Moritz Mühlhausen, **Kappel, Moritz**, Paul Maximilian Bittner, Christian Richardt, and Marcus Magnor. Depth Augmented Omnidirectional Stereo for 6-DoF VR Photography. In *Proc. IEEE Virtual Reality (VR) Workshop*, pages 660–661, May 2020.

Marc Kassubeck, Talash Malek, Moritz Mühlhausen, **Kappel, Moritz**, Susana Castillo, Marc-André Dittrich, and Marcus Magnor. Optical Quality Control for Adaptive Polishing Processes. In *Proc. IEEE Southwest Symposium on Image Analysis and Interpretation*. IEEE Computer Society, 2020.

Thiemo Alldieck, **Kappel, Moritz**, Susana Castillo, and Marcus Magnor. Reconstructing 3D Human Avatars from Monocular Images. *Real VR, LNCS 11900*, pages 188–218, 2020.