Tobias Kirschstein

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HIGHLIGHTS

- PhD candidate for 3D Computer Vision focusing on 3D Human Head Avatars under Prof. Matthias Nießner
- 1k+ citations, 14 accepted papers at top-tier venues (4 first-author), 1 accepted paper as supervisor
- Organizer of 1st workshop on Photorealistic 3D Head Avatars and 1st avatar benchmark at CVPR '25
- Creator and maintainer of the NeRSemble multi-view video dataset of human faces
- Industry experience as Research Scientist (Meta) and Software Developer (Sportradar, Senacor)
- Lecturer of the 3D Scanning & Spatial Learning practical lab at TUM for 3 consecutive years
- Demonstrated willingness to take risks and openness to other cultures by working in Norway for a year

EDUCATION

Apr 2022 – present **PhD Computer Science** *Technical University of Munich*
Expected date of graduation: March 2026
Supervisor: Prof. Matthias Nießner

Oct 2018 – Dec 2021 **MSc Computer Science** *Technical University of Munich*
Final grade: 1.1
Thesis: *Flow-guided Side Supervision for Novel View Synthesis on Large Outdoor Scenes*
Supervisor: Prof. Matthias Nießner

Sep 2019 – Dec 2019 **MSc Computer Science** *UNSW Sydney*
Study abroad, term WAM: 89/100 (Australian system, equivalent to an A)

Oct 2013 – Oct 2018 **BSc Mathematics & BSc Computer Science** *University of Passau*
Final grade: 1.1 (Mathematics), 1.2 (Computer Science)

FIRST-AUTHOR PUBLICATIONS

October 2025 Avat3r: Large Animatable Gaussian Reconstruction Model for High-fidelity 3D Head Avatars
Kirschstein, T., Romero J., Sevastopolsky A., Nießner M., Saito S.
ICCV 2025

December 2024 GGHead: Fast and Generalizable 3D Gaussian Heads
Kirschstein, T., Giebenhain, S., Tang J., Georgopoulos, M., Nießner, M.
SIGGRAPH ASIA 2024

June 2024 DiffusionAvatars: Deferred Diffusion for High-fidelity 3D Head Avatars
Kirschstein, T., Giebenhain, S., Nießner, M.
CVPR 2024

Aug 2023 NeRSemble: Multi-view Radiance Field Reconstruction of Human Heads
Kirschstein, T., Qian, S., Giebenhain, S., Walter, T., & Nießner, M.
SIGGRAPH 2023

For an exhaustive list of my publications, visit my Google scholar profile.

SCHOLARSHIPS

Oct 2013 – Sep 2021 **Max Weber-Programm Bayern**
Scholarship for highly talented students promoting personal development, interdisciplinary exchange, and networking

Dec 2016 – Dec 2017 **ERASMUS+**
European funding program for international internships

WORK EXPERIENCE

Apr 2022 – Mar 2026 **PhD Candidate** *Visual Computing & Artificial Intelligence Lab, TUM*

- Built the NeRSemble multi-view camera rig consisting of 16 synchronized video cameras for studio-grade recording of facial performances
- Recorded 420+ participants in the capture rig and released them as academic dataset
- Organized the 1st workshop on Photorealistic 3D Head Avatars at CVPR '25 and created the 1st avatar benchmark including an active online leaderboard
- Lectured the "3D Scanning & Spatial Learning" course at the university for 6 semesters
- (Co-)published 17 academic papers, including 5 first-author papers at top-tier venues, 2 papers as a supervisor of Master students, and 1 SotA report on digital humans

Jun 2024 – Oct 2024 **Research Scientist Intern** *Reality Labs, Meta*

- Designed a few-shot 3D head avatar creation pipeline under the supervision of Shunsuke Saito and Javier Romero
- Published results of internship as paper at ICCV 2025

Apr 2020 – Apr 2021 **Research Assistant for Machine Learning** *Data Analytics & Machine Learning Group, TUM*

- Designed a distributed preprocessing pipeline for source code parsing
- Implemented several Machine Learning models for comparison and improvement
- Published results at ICLR '21

Jan 2018 – Mar 2018 **Software Development Intern** *Senacor Technologies AG, Nuremberg*

- Extended the AngularJS frontend and Java Spring backend of client's partner relationship management system, assisted users with new features
- Improved reliability of system by writing unit, regression, and especially end-to-end tests with Cucumber
- Assessed and discussed complexity of upcoming tasks in biweekly Sprint planning

Dec 2016 – Dec 2017 **Software Developer** *Sportradar AS, Trondheim*

- Conceptualized software architecture for a new Java project; Conducted a complete test run under real conditions before going live
- Fixed live systems under pressure; Developed, released, and monitored 5 new reliable and high-available software components for processing real time sports data
- Facilitated software engineering process by creating developer tools
- Coached and supervised a new co-worker during onboarding
- Established and maintained contacts to other teams to clarify interdependencies

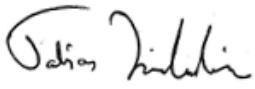
SKILLS

Tools & Technologies	Python, PyTorch, C/C++, Java, SQL, JavaScript, PHP, HTML, CSS, Git	*Experienced*
Languages	German - native speaker	*Level C2*
	English - highly proficient in both spoken and written English	*Level C1+*
	Norwegian - solid communication skills	*Level B2*

REFERENCES

Prof. Dr. Matthias Nießner - niessner@tum.de *Head of Visual Computing & Artificial Intelligence Lab at TUM*

Dr. Javier Romero - javierromero1@meta.com *Research Scientist at Meta Reality Labs*



Munich, 02 January 2026