

EDUCATION

M.Sc. Robotics, Cognition, Intelligence · Technical University of Munich Oct 2023 – Present

Grade 1.2 (top 5%) · Focus: visual computing, 3D computer vision, probabilistic machine learning

Master's thesis (ongoing): *Toward Usable Self-Supervised NVS*, CompVis group, LMU Munich — supervised by Stefan Baumann, Changxuan Li, Prof. Federico Tombari, Prof. Björn Ommer

B.Sc. Computer Engineering · Leibniz University Hannover Apr 2019 – Aug 2023

Grade 1.9 (top 12%) · Focus: machine learning, embedded software development

Bachelor's thesis: *Comparison of Different State-of-the-Art Reinforcement Learning Methods in a 2D Simulation Environment* — Real-Time Systems Group; examiner Prof. Bernardo Wagner, supervisor Julian Kunze

SCHOLARSHIPS

e-fellows.net Scholarship · Online scholarship for high-achieving students in Germany Since 2023

RESEARCH PROJECTS

I2DGS: Physically-Based Inverse Rendering with 2D Gaussians 2026

With M. Grobe; supervised by Prof. M. Nießner. Two-stage 2D Gaussian splatting + PBR pipeline with differentiable BVH ray-traced shadows; recovers geometry and SVBRDFs from OLAT captures.

Framework for 3D Reconstruction Understanding 2026

With V. Hong; supervised by Prof. F. Tombari. Benchmarked MAST3R, VGGT, MapAnything, SPFSplat and RayZer on ScanNet++; analysed MapAnything via input ablations, robustness tests and attention maps.

I-GaSp3R: Incremental Gaussian Splatting for 3D Reconstruction 2025

With T. Steinle; supervised by L. Höllein and Prof. M. Nießner. Pose-free, feed-forward 3DGS from unposed image sequences at 21 FPS, combining Spann3R's spatial memory with a Gaussian head.

InstantSplat++: Registration-Free Gaussian Splatting from Sparse Images 2025

Team of four; supervised by Prof. A. Dai. SfM-free sparse-view splatting with Spann3R initialization and cumulative masking; higher PSNR and up to 9.8x faster initialization than InstantSplat.

EXPERIENCE

Working Student, Machine Learning · CHECK24 Comparison Portal, Munich Sep 2024 – Present

- Built the image search end to end: data collection, model training, daily vector-database indexing and serving.
- Built the semantic text search end to end with a DSSM / Transformer retrieval model, from training to serving.
- Built a listwise Transformer re-ranker, contributing to measurable CTR and conversion gains in A/B tests.
- Contributed to maintaining dbt data pipelines and to agentic LLM projects.

Tutor, Machine Learning · Technical University of Munich Oct 2024 – Apr 2025

- Ran Q&A sessions, moderated the course forum, graded exams and maintained teaching materials.

Intern, Generative AI · Siemens AG, Munich Mar 2024 – Aug 2024

- Trained LLMs with an AST-based approach to generate PLC code from limited training data.

Student Research Assistant, Machine Learning · TNT, Leibniz University Hannover Dec 2021 – Jun 2022

- Implemented VQ-VAE, NVAE and PixelCNN for anomaly detection and localization; PHME 2022 Data Challenge.

Embedded Software Development · LivaNova (Munich), IAV (Gifhorn), Dräger Safety (Lübeck) 2021 – 2024

- Medical-device prototypes and CAN-bus test automation; computer vision for robotic classification; STM32 board support package with CI.

SKILLS

3D Computer Vision ◇ Neural & Inverse Rendering ◇ Gaussian Splatting ◇ Generative Models ◇ Reinforcement Learning ◇ Python ◇ PyTorch ◇ CUDA ◇ C/C++ ◇ SQL ◇ SLURM ◇ Hydra ◇ W&B ◇ Docker ◇ Git ◇ German ◇ English