Nicolas Schischka

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Education

Master of Science Robotics, Cognition, Intelligence *Oct 2022 - Apr 2025*

- **Technical University of Munich** (Munich, Germany)
- Dual study program in cooperation with the AUDI AG
- GPA: 1.1 / 1.0
- Master's Thesis: Leveraging Topology Estimation and Agent-Map Interaction for End-to-End Trajectory Forecasting (Grade: 1.0, Examiner: Dr. Federico Tombari)

Exchange Study Program Computer Science *Sept 2023 - Dec 2023*

- **Concordia University** (Montréal, Canada)
- GPA: 4.30 / 4.30

Bachelor of Science Mechanical Engineering *Oct 2018 - Apr 2022*

- **Technical University of Munich** (Munich, Germany)
- GPA: 1.5 / 1.0 (Top 2.5 %)
- Bachelor's Thesis: Artificial Intelligence in the Material Development of Composites (Grade: 1.0, Examiner: Prof. Dr.-Ing. Klaus Drechsler)

Abitur (equivalent to A-Levels in the UK) *Sep 2010 - Jun 2018*

- **Gymnasium Gröbenzell** (Gröbenzell, Germany)
- GPA: 1.2 / 1.0

Professional Experience

Research Assistant *July 2025 - today*
Robot Learning Lab, University of Freiburg *Freiburg, DE*

- Conduct of research in the area of perception for autonomous driving
- Research about collective perception

Master's Thesis & Research Intern Pre-Development Perception *July 2024 - March 2025*
CARIAD SE *Munich, DE*

- Research intern in the development of an end-to-end model for motion forecasting based on multi-view images in MMCV
- Fusion of a sparse 3D detection model with an online map generation model

Intern Autonomous Driving *Apr 2024 - July 2024*
Audi of America, Inc. *San Jose, CA, US*

- Support of the concept car team to develop an autonomous vehicle
- Further development of autonomous driving functions (PID controller and extended Kalman filter) in C++/ROS

Research Intern Development Innovation *Mar 2024 - Apr 2024*
AUDI AG *Ingolstadt, DE*

- Collaboration in a research project related to formal methods in the context of path planning for autonomous driving
- Development of a path planner based on Signal Temporal Logic (STL)

Intern Development of Vehicle Data Analytics / Artificial Intelligence *Jan 2024 - Feb 2024*
AUDI AG *Ingolstadt, DE*

- Pre-processing of vehicle sensor data in Dataiku
- Application of a time series classification model for driver identification in PyTorch

Intern Project Control MEB, PPE41, e-tron *Mar 2023 - Apr 2023*
AUDI AG *Ingolstadt, DE*

- Improvement of reporting for cross-series topics
- Information procurement and processing on model series and equipment packages

Intern Virtual Development of Vehicle Dynamics *Apr 2021 - Sep 2021*
BMW AG *Munich, DE*

- Further development of a two-track model in Simulink
- Implementation of vehicle dynamics simulations in Matlab/Simulink
- Development of tests for software products using modern tools

Teaching Assistant *Nov 2019 - Feb 2021*
Technical University of Munich *Munich, DE*

- Tutorial of Engineering Mechanics 1 in the winter semester 2019/20 and 2020/21
- Tutorial of Engineering Mechanics 2 in the summer semester 2020

Publications

Peer-Reviewed Publications

[1] **N. Schischka***, H. Schieber*, M. A. Karaoglu*, M. Gorgulu, F. Grötzner, A. Ladikos, N. Navab, D. Roth, and B. Busam, "DynaMoN: Motion-Aware Fast and Robust Camera Localization for Dynamic Neural Radiance Fields," *IEEE Robotics and Automation Letters*, vol. 10, no. 1, pp. 548-555, Jan. 2025.

[2] A. Dhonthi, **N. Schischka**, E. M. Hahn, and V. Hashemi, "Autonomous Vehicles Path Planning under Temporal Logic Specifications," in *Formal Methods: Foundations and Applications*, S. C. Nogueira and C. Teodorov, Eds., Lecture Notes in Computer Science, vol. 15403, Cham: Springer, 2025, pp. 35–45.

Abstract/Non-Peer-Reviewed Publications

[1] A. Seidel, **N. Schischka**, D. Bublitz, and K. Drechsler, "Prediction of Elastic Properties of Unidirectional Fibre-Reinforced Polymers Using Image Processing of Micrographs, Microscale Finite Element Simulations and Feedforward Neural Networks," (Abstract) In *1st Conference on Artificial Intelligence in Materials Science and Engineering (AIMSE)*, Saarbrücken, Germany, 2023.

Reviewing

IEEE International Conference on Robotics & Automation (ICRA) [2025, 2026]
IEEE/RSJ International Conference on Intelligent Robots and Systems (IROS) [2025]
IEEE Robotics and Automation Letters (RA-L) [2025]

Awards

GDCh-Award for the best A-level student in chemistry

Deutschlandstipendium (Oct 2019 - Sep 2020)

Hobbies

Landscape photography, boardgames, listening to music, hiking, concerts, football

Proficiencies and Skill

Programming knowledge: Python, C, C++, git, PyTorch, NumPy, Matplotlib, MMCV, ROS, Docker
Software proficiencies: Microsoft Office, Atlassian products (Bitbucket, Confluence, Jira), Autodesk Inventor, DS Catia V5, LaTeX, Dataiku, Microsoft Azure
Language proficiencies: German (native), English (C1), Spanish (A2), French (A1)