

# Daniel Dauner

Doctoral Researcher

✉ daniel.dauner@gmail.com    🌐 <https://danieldauner.github.io>    📍 Tübingen, Germany, 72076

## Education

### University of Tübingen, Germany

Feb 2024 – Now	<i>Doctoral Student in Computer Science</i> <ul style="list-style-type: none"><li>• <i>Advisor:</i> Prof. Andreas Geiger</li><li>• <i>Scholarship:</i> International Max Planck Research School for Intelligent Systems (IMPRS-IS)</li></ul>
Apr 2021 – Aug 2023	<i>Master of Science in Computer Science</i> <ul style="list-style-type: none"><li>• <i>Advisor:</i> Prof. Andreas Geiger</li><li>• <i>Thesis:</i> Vehicle Motion Planning using Data-Driven Simulation (<i>Grade: 1.0</i>)</li><li>• <i>Overall Grade:</i> 1.19 (<i>with distinction</i>)</li></ul>
Oct 2017 – Feb 2021	<i>Bachelor of Science in Bioinformatics</i> <ul style="list-style-type: none"><li>• <i>Advisor:</i> Prof. Nico Pfeifer</li><li>• <i>Thesis:</i> Acetabulum fracture classification on a large cohort of CT images from German hospitals using 3D CNNs (<i>Grade: 1.0</i>)</li><li>• <i>Overall Grade:</i> 1.55</li></ul>

## Teaching & Research

2020 – 2024	<b>University of Tübingen, Germany</b> <i>Research Assistant – Autonomous Driving</i> <ul style="list-style-type: none"><li>• <i>Chair:</i> Autonomous Vision Group, Prof. Andreas Geiger</li><li>• <i>Aug 2023 – Jan 2024:</i> Miscellaneous Topics in Autonomous Driving Research.</li></ul> <i>Research Assistant – Medical Informatics</i> <ul style="list-style-type: none"><li>• <i>Chair:</i> Methods in Medical Informatics, Prof. Nico Pfeifer</li><li>• <i>May 2021 – Aug 2021:</i> Acetabulum fracture classification with 3D CNNs on CT-Scans. Cooperation with the BG Clinic Tübingen.</li></ul> <i>Teaching Assistant – Probability Theory</i> <ul style="list-style-type: none"><li>• <i>Chair:</i> Probability Research Group, PD Elmar Teufl</li><li>• <i>Apr 2021 – Jul 2021:</i> Tutorials in Probability Theory (2 classes, 60+ students)</li><li>• <i>Apr 2020 – Jul 2020:</i> Tutorials in Probability Theory (1 class, 20 students)</li></ul>
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## Awards

2024	<ul style="list-style-type: none"><li>• <b>Valedictorian speaker:</b> Class of 2023/2024 – University of Tübingen I was selected to represent the 2023/2024 graduates in a valedictorian speech</li></ul>
2023	<ul style="list-style-type: none"><li>• <b>1st Place:</b> nuPlan Planning Challenge 2023 – Motional Our PDM planner won the international nuPlan challenge, with 25 competing teams.</li></ul>

2022	<ul style="list-style-type: none"> <li>• <b>1st Place:</b> Deep Learning Competition – Cognitive Systems Group Our Autoencoder ranked first in the lecture competition with 16 participating teams.</li> <li>• <b>1st Place:</b> Self Driving Cars Challenge (3/3), Modular Pipeline – Autonomous Vision Group My modular pipeline agent won the lecture competition, with 15 participating teams.</li> </ul>
2021	<ul style="list-style-type: none"> <li>• <b>1st Place:</b> Self Driving Cars Challenge (2/3), Reinforcement Learning – Autonomous Vision Group My reinforcement learning agent won the lecture competition, with 23 participating teams.</li> <li>• <b>1st Place:</b> Self Driving Cars Challenge (1/3), Imitation Learning – Autonomous Vision Group My imitation learning agent won the lecture competition, with 34 participating teams.</li> </ul>
2020	<ul style="list-style-type: none"> <li>• <b>1st Place:</b> Artificial Intelligence Competition – Cognitive Systems Group Our Chess AI won the in class challenge, with 10+ participating teams.</li> </ul>

## Qualifications

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<b>Programming</b>	Python, Java, C, C++, C#, R, MATLAB, Racket
<b>Libraries</b>	PyTorch, TensorFlow, JAX, NumPy, Numba, ROS, OpenCV
<b>Software</b>	Git, Inkscape, $\text{\LaTeX}$ , Office Suite
<b>Languages</b>	German (native), English (proficient), French (basic)

## Invited Talks

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- **Robert Bosch GmbH:** Synthesizing Driving Environments with Generative Models, *Renningen*, 13.09.2024.
- **Mercedes-Benz AG:** Vehicle Motion Planning using Data-Driven Simulation, *Sindelfingen*, 26.10.2023.

## Publications

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2024	<p>[1] K. Chitta, <b>D. Dauner</b>, and A. Geiger, “Sledge: Synthesizing driving environments with generative models and rule-based traffic,” in <i>European Conference on Computer Vision (ECCV)</i>, 2024.</p> <p>[2] <b>D. Dauner</b>, M. Hallgarten, T. Li, X. Weng, Z. Huang, Z. Yang, H. Li, I. Gilitschenski, B. Ivanovic, M. Pavone, A. Geiger, and K. Chitta, “Navsim: Data-driven non-reactive autonomous vehicle simulation and benchmarking,” in <i>Advances in Neural Information Processing Systems (NeurIPS)</i>, 2024.</p>
2023	<p>[3] <b>D. Dauner</b>, “Image reconstruction from event cameras for autonomous driving,” in <i>International Conference on Learning Representations Workshop on Scene Representations for Autonomous Driving</i>, 2023.</p> <p>[4] <b>D. Dauner</b>, M. Hallgarten, A. Geiger, and K. Chitta, “Parting with misconceptions about learning-based vehicle motion planning,” in <i>Conference on Robot Learning (CoRL)</i>, 2023.</p>