

# Jens Beißwenger

PhD Student at the University of Tübingen

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📍 Tübingen, Germany

## Education

2025 – Present	<b>University of Tübingen, Germany</b> <i>PhD in Computer Science; <a href="#">Robust Machine Learning Group</a></i> <ul style="list-style-type: none"><li>• Advisor: <a href="#">Dr. Wieland Brendel</a></li><li>• Scholarship: <a href="#">International Max Planck Research School for Intelligent Systems (IMPRS-IS)</a></li></ul>
2022 – 2025	<b>University of Tübingen, Germany</b> <i>Master of Science in Machine Learning</i> <ul style="list-style-type: none"><li>• Advisor: <a href="#">Prof. Andreas Geiger</a></li><li>• Thesis: <a href="#">Enhancing Model-based Reinforcement Learning for Autonomous Driving</a></li><li>• Selected courses: Self-Driving Cars, Computer Vision, Statistical &amp; Probabilistic Machine Learning, Recurrent and Generative Artificial Neural Networks</li></ul>
2017 – 2022	<b>University of Karlsruhe (KIT), Germany</b> <i>Bachelor of Science in Computer Science</i> <ul style="list-style-type: none"><li>• Advisor: <a href="#">Prof. Gerhard Neumann</a></li><li>• Thesis project @ Bosch Tübingen: Improving the Sim2Real performance using the FFB6D network</li></ul>

## Honors & Awards

06/2024	<b>1st Place</b> , CVPR - Carla Autonomous Driving Challenge Map track, 2nd place overall, 40 participating teams <i>University of Tübingen</i>
08/2023	<b>1st Place</b> , Reinforcement Learning Hockey Tournament, Autonomous Learning Group, 89 participants <i>University of Tübingen</i>
01/2023	<b>3rd Place</b> , Self-Driving Cars, Modular Pipeline, Autonomous Vision Group, 26 participants <i>University of Tübingen</i>
12/2022	<b>5th Place</b> , Self-Driving Cars, Reinforcement Learning, Autonomous Vision Group, 26 participants <i>University of Tübingen</i>
11/2022	<b>e-fellows.net Scholarship</b> , Academic Network Member <i>University of Tübingen</i>
10/2022	<b>4th Place</b> , Self-Driving Cars, Imitation Learning, Autonomous Vision Group, 26 participants <i>University of Tübingen</i>
06/2016	<b>2nd Place</b> , Jugend Forscht, Camera-controlled Model Railway, Regional Competition Ostwürttemberg <i>Technical High School</i>
06/2016	<b>3rd Place</b> , Jugend Forscht, Wifi-Controlled Model Car, Regional Competition Ostwürttemberg <i>Technical High School</i>

06/2015 | **3rd Place**, Jugend Forscht, Camera-controlled Model Railway, Regional Competition  
Ostwürttemberg  
Technical High School

## Projects

- 06/2024 – 05/2025 | **Autonomous Reading Group, University of Tübingen**
- Weekly reading group discussing recent papers about autonomous driving
  - Critical analysis of state-of-the-art methods in autonomous systems
  - Collaborative research discussions with peers and faculty
- 11/2023 – 04/2024 | **Research Project, Autonomous Vision Group, University of Tübingen**  
*PDM-Lite: Rule-Based Planner for CARLA Leaderboard 2.0*
- Developed PDM-Lite, a rule-based expert for CARLA Leaderboard 2.0
  - Responsible for dataset collection and algorithm optimization
  - Achieved 1st place (Map track) and 2nd place (Sensors track) in the CVPR 2024 CARLA Autonomous Driving Challenge
  - Work based on Transfuser++ architecture with novel improvements
- 10/2021 – 03/2022 | **Maze Navigation App, University of Karlsruhe, Germany**
- Developed motion-controlled maze navigation app using eSense headphones
  - Implemented real-time sensor data processing (gyroscope and accelerometer)
  - Created intuitive user interface for motion-based game control
- 10/2019 – 03/2020 | **Software Development Practice, University of Karlsruhe, Germany**
- Built and trained facial recognition CNN from scratch in Java/OpenCL
  - Implemented cross-platform support (CPU/GPU/Movidius NCS)
  - Optimized performance for various hardware configurations

## Publications

- 2025 | [1] B. Jaeger, D. Dauner, **J. Beißwenger**, S. Gerstenecker, K. Chitta, and A. Geiger  
**CaRL: Learning Scalable Planning Policies with Simple Rewards**  
*Conference on Robot Learning (CoRL)*
- | [2] J. Zimmerlin, **J. Beißwenger**, B. Jaeger, A. Geiger, and K. Chitta  
**Hidden Biases of End-to-End Driving Datasets**  
*arXiv preprint*
- 2024 | [3] **J. Beißwenger**  
**PDM-Lite: A Rule-Based Planner for CARLA Leaderboard 2.0**  
*GitHub Repository*
- | [4] C. Sima, K. Renz, K. Chitta, L. Chen, H. Zhang, C. Xie, **J. Beißwenger**, P. Luo, A. Geiger, H. Li  
**DriveLM: Driving with Graph Visual Question Answering (Oral)**  
*European Conference on Computer Vision (ECCV)*

## Work Experience

- 06/2023 – 02/2025 | **Research Assistant, Autonomous Vision Group, University of Tübingen**
- Assisted in the exercises of the Self-Driving Cars course of Prof. Andreas Geiger
  - Created and evaluated practical student challenges
  - Conducted autonomous driving research using the CARLA Simulator
- 09/2022 – 11/2022 | **Data Science Intern, KPMG Lighthouse, Stuttgart, Germany**
- Development of ML-based text duplicate detection using Python/PyTorch for customer database analysis
  - IPE (Information Provided by the Entity) / ITAC (IT Application Control) audit of a DAX40 company including database application verification
  - Documentation of IT infrastructure development for vehicle coordination at a listed company

07/2021 – **Digital Skills Instructor, IBZ Karlsruhe, Germany**  
03/2022

- Taught essential computer skills (Linux, Office suite, video conferencing)