Jens Beißwenger

PhD Student at the University of Tübingen

• j-beisswenger.github.io

♥ Tübingen, Germany

Education

Present

2025 – University of Tübingen, Germany

PhD in Computer Science; Robust Machine Learning Group

• Advisor: Dr. Wieland Brendel

 Scholarship: International Max Planck Research School for Intelligent Systems (IMPRS-IS)

2022 – University of Tübingen, Germany

2025 Master of Science in Machine Learning

Advisor: Prof. Andreas Geiger

• Thesis: Enhancing Model-based Reinforcement Learning for Autonomous Driving

• Selected courses: Self-Driving Cars, Computer Vision, Statistical & Probabilistic Machine Learning, Recurrent and Generative Artificial Neural Networks

2017 – University of Karlsruhe (KIT), Germany

2022 Bachelor of Science in Computer Science

• Advisor: Prof. Gerhard Neumann

• Thesis project @ Bosch Tübingen: Improving the Sim2Real performance using the FFB6D network

Honors & Awards

1st Place, CVPR - Carla Autonomous Driving Challenge Map track, 2nd place overall, 40 participating teams

University of Tübingen

08/2023 | 1st Place, Reinforcement Learning Hockey Tournament, Autonomous Learning Group,

89 participants

University of Tübingen

01/2023 3rd Place, Self-Driving Cars, Modular Pipeline, Autonomous Vision Group, 26 participants

University of Tübingen

12/2022 | 5th Place, Self-Driving Cars, Reinforcement Learning, Autonomous Vision Group, 26

participants

University of Tübingen

11/2022 e-fellows.net Scholarship, Academic Network Member

University of Tübingen

10/2022 4th Place, Self-Driving Cars, Imitation Learning, Autonomous Vision Group, 26 partici-

pants

University of Tübingen

06/2016 | 2nd Place, Jugend Forscht, Camera-controlled Model Railway, Regional Competition

Ostwürttemberg

Technical High School

06/2016 | 3rd Place, Jugend Forscht, Wifi-Controlled Model Car, Regional Competition Ostwürt-

tembera

Technical High School

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

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 – 03/2022

Digital Skills Instructor, IBZ Karlsruhe, Germany

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