Jens Beißwenger

jensbeiswenger@gmail.com j-beisswenger.github.io Tübingen, Germany, 72076

Machine Learning Master's Student at the University of Tübingen

Education

2022 – Present | **University of Tübingen, Germany**
Master of Science in Machine Learning
- Expected graduation WS 24/25
- Advisor: Prof. Andreas Geiger
- Thesis: 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 – 2022 | **University of Karlsruhe (KIT), Germany**
Bachelor of Science in Computer Science
- Advisor: Prof. Gerhard Neumann
- Thesis project @ Bosch Tübingen: Improving the Sim2Real performance using the FFB6D network

2013 – 2017 | **Technical High School, Schwäbisch Gmünd, Germany**

Honors & Awards

06/2024	**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 participants	*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 Ostwürttemberg	*Technical High School*
06/2015	**3rd Place**, Jugend Forscht, Camera-controlled Model Railway, Regional Competition Ostwürttemberg	*Technical High School*

Projects & Internships

06/2024 – Present | **Autonomous Reading Group, University of Tübingen**
- I take part in a weekly reading group discussing recent papers about autonomous driving

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 & I was responsible for dataset collection
- Achieved 1st place (Map track) and 2nd place (Sensors track) in the CVPR 2024 CARLA Autonomous Driving Challenge
- Our work was based on Transfuser++

09/2022 – 11/2022 | **Internship at KPMG Lighthouse, Stuttgart, Germany**
Data Scientist
- 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

10/2021 – 03/2022 | **Maze Navigation App, University of Karlsruhe, Germany**
- Developed a motion-controlled maze navigation app using eSense headphones' gyroscope and accelerometer

10/2019 – 03/2020 | **Software development practice, University of Karlsruhe, Germany**
- Built & trained facial recognition CNN from scratch in Java/OpenCL with cross-platform support (CPU/GPU/Movidius NCS)

Publications

2024 | [1] J. Zimmerlin, **J. Beißwenger**, B. Jaeger, A. Geiger, and K. Chitta, "Hidden Biases of End-to-End Driving Datasets", 2024

[2] **J. Beißwenger**, "PDM-Lite: A Rule-Based Planner for CARLA Leaderboard 2.0", 2024

[3] C. Sima, K. Renz, K. Chitta, L. Chen, H. Zhang, C. Xie, **J. Beißwenger**, and P. Luo, "Drivelm: Driving with graph visual question answering", in *Proc. of the European Conference on Computer Vision (ECCV)*, 2024

Work experience

06/2023 – Present | **Research Assistant, Autonomous Vision Group, University of Tübingen**
- Assisted in the exercises of the Self-Driving Cars course under Prof. Andreas Geiger
- Created and evaluated practical student challenges
- Conducted autonomous driving research using the CARLA Simulator

07/2021 – 03/2022 | **Digital Skills Instructor, IBZ Karlsruhe, Germany**
- Taught essential computer skills (Linux, Office suite, video conferencing)