

Jens Beißwenger

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Machine Learning Master's Student at the University of Tübingen

Education

2022 – Present	University of Tübingen, Germany <i>Master of Science in Machine Learning</i> <ul style="list-style-type: none">• 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 <i>Bachelor of Science in Computer Science</i> <ul style="list-style-type: none">• 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	<i>University of Tübingen</i>
08/2023	1st Place , Reinforcement Learning Hockey Tournament, Autonomous Learning Group, 89 participants	<i>University of Tübingen</i>
01/2023	3rd Place , Self-Driving Cars, Modular Pipeline, Autonomous Vision Group, 26 participants	<i>University of Tübingen</i>
12/2022	5th Place , Self-Driving Cars, Reinforcement Learning, Autonomous Vision Group, 26 participants	<i>University of Tübingen</i>
11/2022	e-fellows.net Scholarship , Academic Network Member	<i>University of Tübingen</i>
10/2022	4th Place , Self-Driving Cars, Imitation Learning, Autonomous Vision Group, 26 participants	<i>University of Tübingen</i>
06/2016	2nd Place , Jugend Forscht, Camera-controlled Model Railway, Regional Competition Ostwürttemberg	<i>Technical High School</i>
06/2016	3rd Place , 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	<i>Technical High School</i>

Projects & Internships

06/2024 – Present	Autonomous Reading Group, University of Tübingen <ul style="list-style-type: none">• I take part in a weekly reading group discussing recent papers about autonomous driving
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11/2023 – 04/2024	Research Project, Autonomous Vision Group, University of Tübingen <i>PDM-Lite: Rule-Based Planner for CARLA Leaderboard 2.0</i> <ul style="list-style-type: none"> 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 <i>Data Scientist</i> <ul style="list-style-type: none"> 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 <ul style="list-style-type: none"> Developed a motion-controlled maze navigation app using eSense headphones' gyroscope and accelerometer
10/2019 – 03/2020	Software development practice, University of Karlsruhe, Germany <ul style="list-style-type: none"> 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 (+ comprehensive technical report including further experiments coming soon) [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 <i>Proc. of the European Conference on Computer Vision (ECCV)</i> , 2024
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Work experience

06/2023 – Present	Research Assistant, Autonomous Vision Group, University of Tübingen <ul style="list-style-type: none"> 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
07/2021 – 03/2022	Digital Skills Instructor, IBZ Karlsruhe, Germany <ul style="list-style-type: none"> Taught essential computer skills (Linux, Office suite, video conferencing)