

ZHEJUN ZHANG

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EDUCATION

ETH Zurich, Switzerland

2020 - 2024

Ph.D. at the Computer Vision Lab with Prof. Luc Van Gool.

Toyota TRACE Zurich

Thesis Title: *Neural Policies for Prosocial Navigation*.

Focus on end-to-end learning and motion generation for autonomous driving and robot navigation.

ETH Zurich, Switzerland

2016 - 2019

M.Sc., Department of Electrical Engineering and Information Technology.

GPA: 5.93/6.00

Willi Studer Prize for Best Master Student in the Department.

Ranking top 1

Focus on system & control, deep learning, and computer vision.

ESOP Scholarship

TU Munich, Germany

2012 - 2015

B.Sc., Department of Electrical Engineering and Information Technology.

GPA: 1.03/1.00

Degree with High Distinction for Best Bachelor Student in the Department.

Ranking top 1

Focus on control & communication engineering.

DAAD Full Scholarship

SELECTED PUBLICATIONS

1. Z. Zhang, P. Karkus, M. Igl, W. Ding, Y. Chen, B. Ivanovic, M. Pavone. "*Closed-Loop Supervised Fine-Tuning of Tokenized Traffic Models*." arXiv, 2024.
2. Z. Zhang, A. Liniger, C. Sakaridis, F. Yu, L. Van Gool. "*Real-Time Motion Prediction via Heterogeneous Polyline Transformer with Relative Pose Encoding*." NeurIPS, 2024.
3. N. Bührer, Z. Zhang, A. Liniger, F. Yu, L. Van Gool. "*A Multiplicative Value Function for Safe and Efficient Reinforcement Learning*." IROS, 2023.
4. Z. Zhang, A. Liniger, D. Dai, F. Yu, L. Van Gool. "*TrafficBots: Towards World Models for Autonomous Driving Simulation and Motion Prediction*." ICRA, 2023.
5. Z. Zhang, A. Liniger, D. Dai, F. Yu, L. Van Gool. "*End-to-End Urban Driving by Imitating a Reinforcement Learning Coach*." ICCV, 2021.

PROFESSIONAL EXPERIENCE

NVIDIA Switzerland AG, Zurich, Switzerland

Jun. 2024 - Mar. 2025

Research Internship, Autonomous Vehicle Research Group.

Closed-loop fine-tuning of next-token prediction policies for motion generation.

Seervision AG, Zurich, Switzerland

2019

R&D Engineer

Develop and deploy cinematographic tracking algorithms for pan-tilt-zoom cameras.

Seervision AG, Zurich, Switzerland

2018

Research Assistant

Prototype learning-based tracking algorithms for pan-tilt cameras.

RESEARCH EXPERIENCE

Automatic Control Laboratory (IFA), ETH Zurich & Seervision AG

2018

Master Thesis with Prof. John Lygeros and Dr. Nikos Kariotoglou.

Thesis Title: *Learning Cinematographic Motion Control from Videos*.

Institute for Dynamic Systems and Control (IDSC), ETH Zurich Semester Project with Prof. Raffaello D'Andrea. Thesis Title: <i>Improving the Trajectory Tracking of a Parametrized MPC.</i>	2017
Automatic Control Laboratory (IFA), ETH Zurich Semester Project with Prof. John Lygeros. Thesis Title: <i>Object Tracking on Arduino and a Commercial Gimbal.</i>	2016
Chair of Information-Oriented Control (ITR), TU Munich Bachelor Thesis with Prof. Sandra Hirche. Thesis Title: <i>Online Gaussian Process Regression Parametrized by Dual Quaternions.</i>	2015

PATENTS

1. "Real-Time Motion Prediction via Heterogeneous Polyline Transformer with Relative Pose Encoding." EP Patent, 2023. Under review.
2. "Prediction method and system, computer program, computer-readable medium", EP4296898A1, 2023.
3. "Training method for training an agent for controlling a controlled device, control method for controlling the controlled device, computer program(s), computer readable medium, training system and control system", EP4124995A1, 2023.

STUDENT SUPERVISION & TEACHING

Master Theses & Semester Project

- Nick Bühner. "Safety Critics for Safe and Efficient Reinforcement Learning." 2022.
- Alan Tirado Mayer. "Learning-Based Autonomous Racing Path Planning from LiDAR Data." 2022.
- Felix Schmitt-Koopmann. "Uncertainty in Reinforcement Learning with World Models." 2021.
- Manuel Breitenstein. "Dream To Drive: Learning Latent Dynamics for Model-Based Reinforcement Learning." 2021.

Teaching Assistant

- Computer Vision and Artificial Intelligence for Autonomous Cars. 2023.

SKILLS & LANGUAGES

Programming	Python, C++, Matlab, R, Pytorch, Tensorflow, ROS, OpenCV, Eigen.
Development Tools	AWS, Slurm, Git, Linux, Docker, LaTeX, MS-Office, Image and Video Editing.
Language	Chinese (Native), English (Proficient), German (Proficient, C1).

REFERENCES

Dr. Maximilian Igl: migl@nvidia.com

Senior Research Scientist. NVIDIA, Switzerland.

Dr. Peter Karkus: pkarkus@nvidia.com

Research Scientist. NVIDIA, Switzerland.

Dr. Alexander Liniger: alexliniger@gmail.com

Research Scientist. The AI Institute Zurich, Switzerland.

Dr. Dengxin Dai: dengxin.dai@huawei.com

Director of Research. Huawei Zurich Research Center, Switzerland.