

ZHEJUN ZHANG

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PROFESSIONAL EXPERIENCE

Huawei Zurich Research Center, Zurich, Switzerland

Apr. 2025 - now

Research Scientist, Computer Vision and Machine Learning.

Develop IL and RL algorithms for next-generation smartphone cameras.

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.

Top 1 ranking on the Waymo Open Sim Agent Challenge 2024 Leaderboard for traffic simulation.

Seervision AG, Zurich, Switzerland

2019

R&D Engineer

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

Implement extended Kalman filters in C++ using Eigen and ROS to compensate for delays in the multi-object tracker, enabling the pan-tilt motor controllers to respond more quickly and reliably to the tracked target.

Seervision AG, Zurich, Switzerland

2018

Research Assistant

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

Implement deep learning-based multi-object detection, tracking, and motion prediction models in ROS and Python to generate real-time tracking targets for the MPC controller of the pan-tilt motors.

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." CVPR Oral, 2025.
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.

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

RESEARCH EXPERIENCE

Automatic Control Laboratory (IFA), ETH Zurich & Seervision AG <i>Master Thesis</i> with Prof. John Lygeros and Dr. Nikos Kariotoglou. Thesis Title: <i>Learning Cinematographic Motion Control from Videos.</i>	2018
Institute for Dynamic Systems and Control (IDSC), ETH Zurich <i>Semester Project</i> with Prof. Raffaello D'Andrea. Thesis Title: <i>Improving the Trajectory Tracking of a Parametrized MPC.</i>	2017
Automatic Control Laboratory (IFA), ETH Zurich <i>Semester Project</i> 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 <i>Bachelor Thesis</i> with Prof. Sandra Hirche. Thesis Title: <i>Online Gaussian Process Regression Parametrized by Dual Quaternions.</i>	2015

PATENTS

1. "Closed-Loop Supervised Fine-Tuning of Tokenized Traffic Models." US Patent, 2024. Under review.
2. "Real-Time Motion Prediction via Heterogeneous Polyline Transformer with Relative Pose Encoding." EP Patent, 2023. Under review.
3. "Prediction method and system, computer program, computer-readable medium", EP4296898A1, 2023.
4. "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

- Teaching Assistant. "Computer Vision and Artificial Intelligence for Autonomous Cars." 2023.
- 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.

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. 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.