

ZHEJUN ZHANG

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PROFESSIONAL EXPERIENCE

Huawei Zurich Research Center, Zurich, Switzerland <i>Research Scientist, Computer Vision and Machine Learning.</i> Develop IL and RL algorithms for next-generation smartphone cameras.	Apr. 2025 - now
NVIDIA Switzerland AG, Zurich, Switzerland <i>Research Internship, Autonomous Vehicle Research Group.</i> 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.	Jun. 2024 - Mar. 2025
Seervision AG, Zurich, Switzerland <i>R&D Engineer</i> 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.	2019
Seervision AG, Zurich, Switzerland <i>Research Assistant</i> 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.	2018

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 Ph.D. at the Computer Vision Lab with Prof. Luc Van Gool. Thesis Title: <i>Neural Policies for Prosocial Navigation.</i> Focus on end-to-end learning and motion generation for autonomous driving and robot navigation.	2020 - 2024
ETH Zurich, Switzerland M.Sc., Department of Electrical Engineering and Information Technology. <i>Willi Studer Prize for Best Master Student in the Department.</i> Focus on system & control, deep learning, and computer vision.	2016 - 2019 GPA: 5.93/6.00 Ranking top 1 ESOP Scholarship
TU Munich, Germany B.Sc., Department of Electrical Engineering and Information Technology. <i>Degree with High Distinction for Best Bachelor Student in the Department.</i> Focus on control & communication engineering.	2012 - 2015 GPA: 1.03/1.00 Ranking top 1 DAAD Full Scholarship

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

2017

Semester Project with Prof. Raffaello D'Andrea.

Thesis Title: *Improving the Trajectory Tracking of a Parametrized MPC.*

Automatic Control Laboratory (IFA), ETH Zurich

2016

Semester Project with Prof. John Lygeros.

Thesis Title: *Object Tracking on Arduino and a Commercial Gimbal.*

Chair of Information-Oriented Control (ITR), TU Munich

2015

Bachelor Thesis with Prof. Sandra Hirche.

Thesis Title: *Online Gaussian Process Regression Parametrized by Dual Quaternions.*

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 Bührer. "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.