

ZHEJUN ZHANG

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EDUCATION

ETH Zurich, Switzerland

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

Thesis Title: Neural Policies for Prosocial Navigation.

Focus on End-to-End Learning and Neural Simulation for Autonomous Driving.

Jan. 2020 - Jul. 2024

Toyota TRACE Zurich

ETH Zurich, Switzerland

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

Willi Studer Prize for Best Master Student in the Department.

Focus on System & Control, Deep Learning & 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.

B.Sc. with High Distinction for Best Bachelor Student in the Department.

Focus on Control & Communication Engineering.

2012 - 2015

GPA: 1.03/1.00

Ranking top 1

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.

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.

PROFESSIONAL EXPERIENCE

NVIDIA Switzerland AG, Zurich, Switzerland

Research Internship, NVIDIA Autonomous Vehicle Research Group

Jun. 2024 - Mar. 2025

Closed-loop fine-tuning of next-token prediction policies.

Seervision AG, Zurich, Switzerland

Jan. 2019 - Dec. 2019

R&D Engineer

Develop and deploy cinematographic tracking algorithms for PTZ cameras.

Seervision AG, Zurich, Switzerland

Sep. 2017 - Apr. 2018

Research Assistant

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

RESEARCH EXPERIENCE

IFA, ETH Zurich & Seervision AG

May. 2018 - Dec. 2018

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

Learning Cinematographic Motion Control from Videos.

IDSC, ETH Zurich

2017

Semester Project with Prof. Raffaello D'Andrea.

Improving the Trajectory Tracking of a Parametrized MPC.

IFA, ETH Zurich

2016

Semester Project with Prof. John Lygeros.

Object Tracking on Arduino and a Commercial Gimbal.

ITR, TU Munich

2015

Bachelor Thesis with Prof. Sandra Hirche.

Online Gaussian Process Regression Parametrized by Dual Quaternions.

STUDENT SUPERVISION & TEACHING

Master Theses & Semester Project

- 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.

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	CARLA, AWS, Slurm, Git, Linux, Docker, LaTeX, MS-Office
Language	Chinese (Native), English (Proficient), German (Proficient, C1)

REFERENCES

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.

Prof. Dr. Luc Van Gool: luc.vangool@insait.ai

Professor Computer Vision. INSAIT Sofia University, Bulgaria.