

ZHEJUN ZHANG

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EDUCATION

ETH Zurich, Switzerland

Jan. 2020 - Expected May 2024

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

Toyota TRACE Zurich

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

Keywords: Autonomous Driving, Robotics, IL, RL, World Models, Motion Prediction.

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 & Computer Vision.

ESOP Scholarship

TU Munich, Germany

2012 - 2015

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

GPA: 1.03/1.00

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

Ranking top 1

Focus on Control & Communication Engineering.

DAAD Full Scholarship

PUBLICATIONS

1. Z. Zhang, A. Liniger, C. Sakaridis, F. Yu, L. Van Gool. "Real-Time Motion Prediction via Heterogeneous Polyline Transformer with Relative Pose Encoding." NeurIPS, 2023.
2. N. Bührer, Z. Zhang, A. Liniger, F. Yu, L. Van Gool. "A Multiplicative Value Function for Safe and Efficient Reinforcement Learning." IROS, 2023.
3. Z. Zhang, A. Liniger, D. Dai, F. Yu, L. Van Gool. "TrafficBots: Towards World Models for Autonomous Driving Simulation and Motion Prediction." ICRA, 2023.
4. 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. "TrafficBots: Towards World Models for Autonomous Driving Simulation and Motion Prediction." EP Patent, 2022. Under review.
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 ..." EP Patent EP4124995A1, 2023.

PROFESSIONAL EXPERIENCE

Seervision AG, Zurich, Switzerland

Jan. 2019 - Dec. 2019

R&D Engineer

Develop and deploy cinematographic tracking algorithms for PTZ 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 Thesis

- Nick Bührer. "Safety Critics for Safe and Efficient Reinforcement Learning." 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.

Semester Project

- Alan Tirado Mayer. "Learning-Based Autonomous Racing Path Planning from LiDAR Data." 2022.

Teaching Assistant

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

SKILLS & LANGUAGES

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|--------------------------|---|
| 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

Principal Researcher. Huawei Zurich Research Center.

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

Director of Research. Huawei Zurich Research Center.

Prof. Dr. Luc Van Gool: vangool@vision.ee.ethz.ch

CVL, ETH Zurich, Switzerland. PSI, KU Leuven, Belgium. INSAIT, Sofia University, Bulgaria.