Zhejun Zhang

zhejun.zhang@vision.ee.ethz.ch
+41 765081725
https://zhejz.github.io/

Technical Skills

Scientific Skills

Deep/Machine Learning
Computer Vision
Control Theory
Information Theory
Probability/Statistics

Programming Languages

Python, C++
LaTeX, MatLab, R

Software & Tools

Pytorch, Tensorflow
OpenCV, ROS, Eigen
Gazebo, CARLA
AWS, Slurm, LSF
Git, Bash, Docker
MS-Office, Video Editing

Languages

Chinese	native
English	proficient
German	proficient

Awards

2019 **Willi Studer Prize**
Best Master Student
in Dept. of ITET, ETH Zurich.

2016 **ESOP Scholarship**
For MSc at ETH Zurich.

2015 **BSc with High Distinction**
Best Bachelor Student
in Dept. of EI, TU Munich.

2012 **DAAD Full Scholarship**
For BSc at TU Munich.

Education

01/2020 – 05/2024 **Ph.D. at ETH Zurich, Switzerland**
Supervised by Prof. Luc Van Gool at Computer Vision Lab.
- Toyota Research on Automated Cars in Europe (TRACE).
- Focus on end-to-end driving and neural simulation.
- Policy learning, IL, RL, world models and neural rendering.

2016 – 2019 **MSc at ETH Zurich, Switzerland**
Dept. of Information Technology and Electrical Engineering.
- Focus on system & control, computer vision & deep learning.
- Top 1 in the ranking (Grade: 5.93/6.0).

2015 – 2016 **MSc at TU Munich, Germany**
Dept. of Electrical and Computer Engineering.
- Unfinished, ended without degree.
- Grade of the 1st year: 1.0/1.0.

2012 – 2015 **BSc at TU Munich, Germany**
Dept. of Electrical and Computer Engineering.
- Focus on control & communication engineering.
- Top 1 in the ranking (Grade: 1.03/1.0).

2006 – 2012 **Shanghai Foreign Language School, China**
- German as the first foreign language (DSD II, C1 level).

Experience

2019 **R&D Engineer** at Seervision AG, Zurich.
Develop cinematographic tracking algorithms for PTZ cameras.
CV and robotics: perception, estimation and optimization.

2018 **Master Thesis** at IFA, ETH Zurich and Seervision AG.
Supervised by Prof. John Lygeros and Dr. Nikos Kariotoglou.
Learning Cinematographic Motion Control from Videos.

2017 **Research Assistant** at Seervision AG, Zurich.
Prototype learning-based tracking algorithms for pan-tilt cameras.

2017 **Semester Project** at IDSC, ETH Zurich.
Improving the trajectory tracking of a parametrized MPC.

2016 **Semester Project** at IFA, ETH Zurich.
Object tracking on Arduino and a commercial gimbal.

2015 **Bachelor Thesis** at TU Munich.
Online Gaussian process regression paramertrized by dual quaternions.

2014 **Semester Project** at TU Munich.
Real-time rendering of event-based cameras on Oculus Rift VR.

Publications

Zhang, Z., Liniger, A., Dai, D., Yu, F., Van Gool, L. **(2023)** TrafficBots: Towards World Models for Autonomous Driving Simulation and Motion Prediction. *International Conference on Robotics and Automation (ICRA).*

Bührer, N., Zhang, Z., Liniger, A., Yu, F., Van Gool, L. **(2023)** A Multiplicative Value Function for Safe and Efficient Reinforcement Learning. *Under Review.*

Zhang, Z., Liniger, A., Dai, D., Yu, F., Van Gool, L. **(2021)** End-to-End Urban Driving by Imitating a Reinforcement Learning Coach. *IEEE/CVF International Conference on Computer Vision (ICCV)* .

Patents

2022 TrafficBots: Towards World Models for Autonomous Driving Simulation and Motion Prediction.

2021 End-to-End Urban Driving by Imitating a Reinforcement Learning Coach.

Student Supervision

Master Thesis

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

Felix Schmitt-Koopmann. Uncertainty in Reinforcement Learning with World Models.

Manuel Breitenstein. Dream To Drive: Learning Latent Dynamics for Model-Based Reinforcement Learning.

Semester Projects

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