Jun Meng

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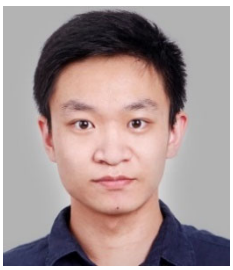

Education

10/2020 – Present **Technical University of Munich** —— Munich, Germany
Master student, Automotive Engineering
Interested fields: Autonomous driving, ADAS (CV, Perception) and modern control theory.
Note: 2,7 so far

10/2019 – 10/2020 **Gap year: German learning** —— Dortmund, Germany

09/2015 – 06/2019 **South China University of Technology** —— Guangzhou, China
B.Eng., Vehicle Engineering
Interested fields: mechanical engineering, vehicle design and vehicle dynamics.
GPA: 3.78/4.0; Ranking: best 5%

Languages

English: CET6 (B2)
German: C1
Chinese: native

Software and Programming Skills

Python, C/C++, ROS, ROS2, MATLAB/Simulink, Git, Docker, Linux OS, FlexRay
Deep Learning, CNN, GNN, PyTorch, CUDA
CATIA V5, Auto CAD, Solidworks, Microsoft Office

Driver's License

Klasse B (German)

Hobbies

Handcraft, Photographing, Swimming, Karting driving

Project Experience

12/2023 – 06/2024 **Master thesis**
Graph-based Object Relations for Context-Dependent 3D Object Detection
Considering object relations in a two-stage detection pipeline to improve detection performance.
Experiments on the Datasets KITTI and Waymo.

- Object relation modeled as graph and then relation features are learned by GNN;
- Based on a current 3D object detection method PV-RCNN.

03/2023 – 08/2023 **Porsche Engineering Group GmbH**
Internship Driver Assistance System
Software development of the planning module of the motorway pilot function.
Filtering of the relevant objects with ML methods and presentation of the results.

- Sensor data processing (FlexRay); Relocalization of actor vehicles in Frenet coordination system.
- Create dataset for separating actor vehicles as collision-related or not.
- MLP model training and evaluation with Tensorflow.

08/2022 – 12/2022 **Semester Thesis: Autonomous Driving Simulator and Benchmark on NRP**

https://github.com/junmeng6025/ros2_kitti

- Develop the AD simulator basing on Neuro-Robotics Platform;
- Implement YOLOv5 and SGBM algorithm in ROS2 galactic.

10/2022 – 02/2023 **Student assistance at ENSNARE TUM: Member of Subteam UAV**

- Ground camera setup, using industrial camera BASLER;
- AprilTag detection, pose acquisition via ROS noetic.

10/2022 – 02/2023 **Formula Student**

Member of Subteam Autonomous Software, TUfast e.V.

- Ground-filter for LiDAR perception;
- State estimation with EKF.
- Parameter configuration of our fastSLAM

09/2022 – 10/2022 **Teaching Assistant: [MW0450] Industrial Software Development for Engineers / C++**

Duties included teaching tutorials, check submitted code, cross compile and test on the hardware.

03/2022 **Practical course: [MW0447] Simulation technology**

- Design of a sorting system and a material filling system.
- Create physical models in Simulink and simulate process control using Stateflow charts.

South China University of Technology

12/2018 – 05/2019 **Bachelor's thesis:** Design and Testing of FSAE-Racecar Aerodynamic Kits

Based on the design of the combustion racecar in the season 2018, carried out track testing to verify the actual aerodynamic effect compared to the CFD simulation results. Used linear displacement sensors to collect raw data of suspension displacements of every single wheel. Used Race Studio to process and analyze the test data.

11/2017 – 06/2019 **Formula Student China: Leader of Aerodynamic & Chassis, SCUT Racing**

Designed and manufactured Aero-kits to produce downforce efficiently for a single-seat open-wheel FSAE-racecar. Using CATIA V5 for 3D modeling and StarCCM for CFD simulation.

Worked for the seasons of 2017, 2018, and 2019. Participated in Formula Student China 2017, responsible for the Design Presentation of our combustion racecar's aerodynamics and ergonomics.
