Wei, Jiarong

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EDUCATION

Delft University of Technology **Delft, Netherlands**

Master of Science *Major in Robotics*

Relevant Courses:

Machine Learning for Robotics, Machine Perception, Deep Learning, Computer Vision

Jilin University **Changchun, China**

Bachelor of Engineering *Major in Vehicle Engineering*

Relevant Courses:

Mechanism and Machine Theory, Automotive Structure, Automotive Theory, Automotive Design

PROJECTS

TU Delft Intelligent Vehicles Group ***06/2022***

Supervisor: Assistant Professor Holger Caesar

Master Thesis (Grade: 8.5) (Topic: Active learning for LiDAR Semantic Segmentation) *12/2022-05/2023*

- Propose a size-balanced partition pipeline to address the class imbalance problem in large-scale datasets
- Address the cold start problem of active learning by sampling data uniformly from the size-balanced subsets
- Achieve the state-of-the-art result on SemanticKITTI and match it on nuScenes, using only 5% data to achieve competitive results with fully supervised training.
- Paper submitted to ICRA conference on September 15th

Research Assignment: LiDAR Semantic Segmentation and usage of HPC *10/2022-12/2022*

- Reproduce the well-performed LiDAR semantic segmentation networks: SPVNAS and Cylinder3d from scratch
- Explore how to use HPC cluster, including the allocation of CPU & GPU and common commands

Lely Husky Robot Project (Grade: 9.5) *06/2022-09/2022*

- Produce the occupancy map and use a top-view camera to detect the robot and the moving obstacles
- Collaborate effectively with the global path planning engineer and the local motion control engineer
- Build the real-world experiment environment and test the solution made in the simulation environment
- Write the detailed solution manual, and recognized by Lely as the best team and the best solution

Planning & Decision-Making Project (Grade: 9.5) *02/2022-05/2022*

- Build the kinematic model about the mobile manipulator, and model it in Mujoco environment using xml language
- Use Stanley Controller algorithm for the mobile manipulator to accurately track the global planning path

Jilin University Automotive Engineering Research Group ***09/2018***

Supervisor: Professor Min Haitao

Sany Heavy Wide Body Car Project *11/2019-01/2020*

- Write a software copyright to check data stability for the project using Matlab

Car Front Bumper Crash Project *06/2019-09/2019*

- Use Hypermesh to create a finite element mesh model of the bumper assembly
- Simulate the collision process in Abaqus

ACTIVITIES

Mathematical Contest In Modeling (Meritorious Award) 02*/2020*

- Combine the neural network model with Matlab data analysis to improve the football race tactics

University of British Columbia Summer School Programme (Grade: A+) *07/2018-08/2018*

- Build a 4-DoF robot arm from scratch and use Arduino to control it

AWARDS

- The Meritorious Award of Mathematical Contest in Modeling *02/2020*
- National Utility Model Patent - A Safety Belt Automatic Locking Device *06/2020-09/2020*

SKILLS

English: CET-4, CET-6, IELTS:7.0, GRE: 323 + writing 4.0

Computer Skills: Python, C++, PyTorch, Matlab, Arduino, ROS, Mujoco, Catia, CAD, Abaqus, Hypermesh, Adams