Huiqian Li

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Github: Website: ResearchGate:

EDUCATION

Tsinghua university, Beijing, China August 2020 - Present
PhD candidate in Mechanical Engineering, School of Vehicle and Mobility
Supervised by Zhihua Zhong

Beijing Institute of Technology, Beijing, China August 2016 - July 2020
B.S. in Automotive Engineering, School of Mechanical Engineering
GPA: 92.4/100 Rank: 2/133

RESEARCH INTERESTS

Trustworthy Artificial Intelligence

· Safe and explainable AI decision-making algorithms
· Evaluation of trustworthiness for AI decision-making
· Model-based reinforcement learning
· Active inference theory and its application in autonomous driving

Decision-Making and Control in Autonomous Driving

· Pedestrian avoidance decision-making
· Robust and adaptive path tracking control
· Autonomous driving platoon control

PROFESSIONAL SKILLS

Languages	Chinese (native), English (CET6, PETS5), German (B2)
Programming Languages	Python = Matlab/Simulink = C > C++
Platform	Linux
Software	Pytorch, CARLA, CarSim/TruckSim, ROS, Cyber RT

RESEARCH PUBLICATIONS

Published

· **Li H**, Huang J, *et al.* Stochastic Pedestrian Avoidance for Autonomous Vehicles Using Hybrid Reinforcement Learning. *Front Inform Technol Electron Eng.* 2023; 24(1): 131-140. doi:10.1631/FITEE.2200128
· **Li H**, Huang J, *et al.*. Adaptive Robust Path Tracking Control for Autonomous Vehicles with Measurement Noise. *Int J Robust Nonlinear Control.* 2022; 32(13): 7319–7335. doi:10.1002/rnc.6218
· Meng T, Huang J, **Li H**, *et al.* Q-Learning based Optimisation Framework for Real-time Mixed-task Scheduling, *Cyber-Physical Systems*, 8:3, 173-191, DOI: 10.1080/23335777.2021.1900922
· Chen T, Li Z, He Y, Xu Z, Yan Z, **Li H**. From Perception to Control: an Autonomous Driving System for a Formula Student Driverless Car, *China SAE Congress and Exhibition*, (1)., 2019: 86-95.

Submitted

· **Li H**, Tian J, *et al.*. Towards Trustworthy Decision-Making for Autonomous Vehicle: Survey and Challenges.

PROJECTS

Autonomous Driving Truck Platoon Control Algorithm Development June 2020 - August 2021

· Software platform building based on Baidu Apollo platform, decision-making and lateral and longitudinal control algorithms development.

· Vehicle-to-vehicle (V2V) communication code development using Ultra Wide Band (UWB) device and V2X device.
· Two-vehicle autonomous driving platoon test and the maximum speed up to 70km/h.

Autonomous Driving Express Vehicle Development October 2021 - January 2022
· Software platform building based on ROS, path tracking control algorithm development.
· Obstacle detection and avoidance based on LiDAR points.

INTERNSHIP/TRAININGS

Autonomous Driving Platoon Development Internship,
Tong-Tsing-Hu Collaborative Innovation Center, Qingdao International Academician Park,
Qingdao, Shandong, China June 2020 - August 2021
Experience Hardware platforms development and planning and control algorithms development based on Baidu Apollo platform using C++.

Beijing Institute of Technology Driverless Racing Team,
Beijing Institute of Technology, Beijing, China August 2018 - August 2020
Experience Vehicle Control Unit (VCU) hardware development and control algorithm development through Matlab/Simulink code generation.

HONORS/AWARDS

Excellent First-class Scholarship of Tsinghua University	*October 2022*
Excellent Communist Youth League Members of Tsinghua University	*September 2021*
Excellent Graduate in Beijing	*July 2020*
Excellent Graduate of Beijing Institute of Technology	*July 2020*
Champion of Formula Student Autonomous China (FSAC)	*October 2018*
Second Prize in China Undergraduate Mathematical Contest in Modeling (CUMCM)	*October 2018*
Merit Student in Beijing	*May 2018*
National Scholarship	*October 2017*

DECLARATION

I hereby declare that all the details furnished above are true to the best of my knowledge and belief.