

Huiqian Li

📍 Automotive Crash Laboratory, Tsinghua university, Haidian District, Beijing 100084, China

☎ +86 199 3709 3760 ✉ lihq20@mails.tsinghua.edu.cn

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 in Autonomous Driving

- 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

SKILLS

Programming Languages

Python = Matlab/Simulink = C > C++


Platform


Linux

Software

Pytorch, CARLA, CarSim/TruckSim, ROS, Cyber RT

RESEARCH PUBLICATION

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  May 2022

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  January 2023

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

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.