HAIYANG YU

607-280-1862 ⋄ hy397@cornell.edu
Apt 1, 134 Summerhill Drive, Ithaca

EDUCATION

Cornell University Aug. 2021 - present
M.Eng. Electrical and Computer Engineering

Harbin Institute of Technology Sept. 2017 - July 2021
B.E. Automation *GPA: 89.2/100*

University of California, San Diego Aug. 2019 - Dec. 2019
Electrical and Computer Engineering (Exchange Student) *GPA: 3.9/4.0*

- **Core courses:** *Network Systems and Games; Robot Perception; Embedded Operating Systems; Linear Systems Fundamentals; Introduction to Autonomous Vehicles; C Programming Language; Introduction to Intelligent Control; Innovation training: static optimization method; Fundamental of Robotics;*

PROJECT EXPERIENCE

Trajectory Planning for Vehicle Collision Avoidance Mar. 2020 - July 2021
Harbin Institute of Technology

- Designed a trajectory planner based on ameliorated Theta* algorithm to conduct autonomous vehicles in a dynamic uncertain environment and avoid collisions with unpredictable moving obstacles.
- Generated an adaptive-MPC based control system for trajectory tracking and simulated in complex scenarios by Simulink/Carsim co-simulation.
- Gave a presentation to show the performance improvement of our approach at IEEE ICPS 2021

Small Autonomous Car Performed on Simulated Tracks Sept. 2019 - Dec. 2019
University of California, San Diego

- Cooperated with two team members to make car parts by 3D printer and laser cutter.
- Applied LIDAR for distance measurement, designed an ACC controller.
- Utilized the YOLO network for pedestrian and traffic sign detection.

Low Density Parity Check(LDPC) Codes Nov. 2019 - Dec. 2019
University of California, San Diego

- Self-learned the basic knowledge about LDPC codes and reproduced the encoder described in a paper which generates an LDPC subcode of the large-scale code.

Automobile Anti-Locking System Based on Carsim-Simulink Jan. 2019 - May 2019

- Simulated movement of the automobile by Carsim Simulink co-simulation.
- Presented at the 12th student academic forum of HIT with this paper and got the first prize.

PUBLICATIONS

H. Yu, *X. Wang and W. Sun. An Improved Theta*-based Trajectory Planner for Autonomous Vehicle With Obstacle Avoidance. IEEE ICPS 2021*

H. Yu *and J. Liu. Research on Simple Automobile Anti-locking System Based on Carsim-Simulink. Journal of Harbin Institute of Technology*

AWARDS

Interdisciplinary Contest in Modeling Honorable Mention
China Undergraduate Mathematical Contest in Modeling First prize in the province
Excellent Student Leader college level
Second-class Scholarship for Outstanding Students top 10% of students

TECHNICAL STRENGTHS

Simulation Matlab/Simulink, Carsim
Programming language Python, C++, C, Lingo, Mathematica
Mechanical design AutoCAD, Solidworks