

Dawen Huang

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EDUCATION

Chongqing University (CQU) -University of Cincinnati (UC) Joint Co-op Institute September 2018 - May 2023

- **Joint Degree Program:** B.E. by CQU and B.S. by UC
- **Major:** Mechanical Design and Automation
- **Overall GPA:** 3.57/4.0; **UC GPA:** 3.73/4.0

Duke University (Graduate School)

September 2023- Now

- **Major:** Mechanical Engineering, Robotics and Automation
- **Overall GPA:** 3.9

PROFESSIONAL EXPERIENCE

FAW CAR CO.,LTD, Changchun, China

January 2020 - April 2020

Engineer Assistant, Department of Electricity Development

- Studied the highlight models of several OEMs and participated in drafting 5 automobile technical analysis reports and automobile benchmarking reports.
- Conduct on-board testing of new technologies and write test reports, including vehicle-machine UI interaction test, VR trunk automatic closing technology test, etc.

CISDI Information Technology Co., Ltd., Chongqing, China

September 2020 - August 2021

Computer Vision Intern, Big Data

- Deployed python-TensorFlow algorithms with EasySense to factory camera by learning technical document.
- Optimized algorithms such as anti-collision of wrapping machine hook and drum level based on yolov4 and verified the performance of the modified algorithms on the server.
- Drafted a total of 8 technical documents and patents, including Visual Product Demo Video, Git User's Manual, Intelligent Dosing System, Literature review report for computer vision algorithm etc.

RESEARCH EXPERIENCE

Autonomous Driving Algorithm Research

January 2022 - July 2022

Research Assistant, Automation Institute of Chongqing University

- Built the car adaptive cruise control (ACC) model based on PID, MPC method and simulated the autonomous driving performance in various scenarios based on i-vista test requirement.
- Analyzed the systems of Autonomous Emergency Braking (AEB) and ACC in more than 20 articles related to autonomous driving; studied the path planning algorithms, simulated and improved classical path planning algorithms such as RRT algorithm and A* algorithm by adding the working conditions of moving obstacles.
- Expanded the algorithm application scenario, A compensation-optimized ACC and AEB model based on different driving styles was designed using Simulink in conjunction with CarSim simulation.

PATENT

"Method, System, Equipment, Medium and Process for Identifying Loading State of Scrap Truck" - China Patent No. CN112308073A - Date of Patent: Feb 1, 2021

"Intelligent Dosing System and Water Treatment System Based on Image Recognition and Data Mining" - China Patent No. CN112875827A - Date of Patent: Jan 1, 2021

COURSE AND PROJECT EXPERIENCE

University of Cincinnati

January 2022 - April 2022

- Courses TA: Solid mechanic (Professor Alex), System Dynamic and Vibration (Professor Pablo Mora) Solved students' questions related to force analysis and equations applied for the systems to enhance their understanding of the course materials. Checked and revised test and quiz questions.
- Capstone project: Constructed a prototype of a satellite testing platform, including the design of the mechanical structure with 3D printing and waterjet manufacturing. Combining IMU attitude data, applied PID algorithm to control motors for the platform's balance control.

Duke University

August 2023- January 2024

- Course project: Participated in project of agricultural robot which is used to detect diseased leaves and picking them for inspection. Responsible for the development and deployment of the diseased leaf algorithm based on yolov5, and programming motor algorithm of forward and inverse kinematics for robotic arm.
- NRF52833dk embedded development, used state machine to control LED lights and buttons in RTOS based on C language, applied oscilloscope test in the experiment.
- Robotics course: four-legged robot development, mechanical structure design and 3D printing manufacturing, gait control algorithm programming, algorithm deployment based on raspberries.

Honors: Chongqing University Scholarship

Computer Skills: Matlab, Python, C, Carsim, Git, Machine Learning, Fusion360, UG