ZHAOTING LI
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Education

- **Harbin institute of technology (HIT)** Harbin, China

Bachelor of Engineering (Automation), Department of Aeronautics Sept 2016—present

GPA: 95.65 / 100 **Ranking**: 2 /111 (2%)

- **University of California, Berkeley** Berkeley,USA

Visiting student researcher at Mechanical Systems Control Lab July 2019—Sept 2019

Publication

- Yipeng Yang, Zhan LI, **Zhaoting LI**, An Automatic Laser Scanning System for Objects with Unknown Model, accepted by 2019 IEEE Smart World Congress
- Zhan LI, **Zhaoting LI**, Yipeng Yang, A Trajectory Planning Method for Robot Scanning System Using Mask R-CNN for Scanning Objects with Unknown Model, under writing, plan to submit to Nuro Computing

Research Experience

Mechanical Systems Control Lab (UC Berkeley) July 2019 — present
A sampled-based trajectory planning method for urban autonomous vehicles

Advisor: **Masayoshi Tomizuka** , IEEE Fellow and Professor of Mechanical Engineering, UC Berkeley

- Applied discrete elastic-band-based motion planning method (**EB planner**) in urban autonomous Vehicles.
- Applied **dynamic programming** to find a collision-free path.
- Employed pure pursuit controller to smooth the path generated by EB planner.
- Used a spatial and speed **sampling method** and **cascaded ranking** method to select the optimal trajectory with many hierarchical features.

Institute of intelligent control and systems (HIT) Feb 2019 — June 2019
Path planning for a laser scanning robot system

Advisor: **Huijun Gao** , IEEE Fellow and Professor at Institute of intelligent control and systems , HIT

- Proposed a novel path planning methods for laser scanning based on **least square method fitting.**
- Proposed an **online correction** methods based on follow-up control and scanned data to optimize the pose of the laser scanner.
- Designed a **robot scanning system** consisting of a Kinect camera, a UR 10 robot and a line laser scanner and unifying the coordinate systems.
- Applied this path planning method in our scanning system to scan many objects.
- One paper (the third author) is accepted by 2019 IEEE Smart World Congress, one paper (the second author) is under writing (plann to be submitted to Nuro Computing).

Institute of intelligent control and systems (HIT) Sept 2018 — Jan 2019
Intelligent operation of robotic arm based on deep reinforcement learning

Advisor: **Huijun Gao** , IEEE Fellow and Professor at Institute of intelligent control and systems , HIT

- Applied Robot Operating System(ROS) in controlling the UR10 robot arm in the Gazebo simulation environment
- Employed the linear-quadratic-Gaussian regulator (**LQG**) to make the UR10 robot arm move to a specified point
- Modified the **guided policy search** method (a policy search method in reinforcement learning) in executing simulated robotic manipulation tasks
- Used position control with guided policy search method to train the UR10 robot arm move to a specified point without using inverse kinematics

Intelligent Car Innovation Club (HIT) Oct 2017—Aug 2018
Wireless charging energy-saving car based on electromagnetic sensor

Advisor: **Huo Ju**, Professor and Assistant Dean at School of Electrical Engineering&Automation ,HIT

- Developed intelligent car with electromagnetic sensors running on the tracks at high speed
- Applyed Matlab to fit the sensor data to make it proportional to the actual position deviation
- Applyed PID controller and fuzzy controller in **steering gear direction control**
- Developed **wireless charging** receiving device
- Established the mechanism model of the intelligent car with SOLIDWORK and make molding with 3D printing and laser beam cutting
- Obtained the national second price in the 13th NXP CUP intelligent car competition in China

Volunteer Work

› Transmit Childhood Education Foundation Mar 2017 – June 2017
Project: Cloud Classroom

- Delivered ten science classes for fifth graders
- Given elementary school students a vivid and interesting explanation of physics, chemistry, robotics, aerospace and other knowledge

› Department of Basic Education (HIT) Sept 2016 – Dec 2016
Project: "Internet +" distance support education

- Tutored high school students in math

› Department of Aeronautics (HIT) Sept 2016 – present
Project: Peer support

- Guided students with learning difficulties to study
- Did lectures on the summary of the final exam knowledge points

Skills

Application: Robot Operating System (ROS) ; SOLIDWORK ; Altium Designer ; IAR Embedded Workbench

Programming language: C; C++; Python; MATLAB

Awards and Honors

- **Top Ten Learning Stars** at Harbin institute of technology (Top 1%, 10/3975) 2019
- National Scholarship (Top 2%, 8/500) 2017
- University-level excellent student cadre (Top 10%) 2018
- National Scholarship (Top 2%, 8/500) 2018
- First class people's scholarship (Four consecutive times , Top 5%) 2017-2018
- The national **second price** in the NXP CUP intelligent car competition (China) Aug 2018