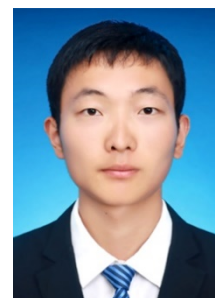


## Personal Statement

I have studied in Harbin Institution of Technology (HIT) since 2013. In 2017, I obtained a Bachelor degree with a major in control science and engineering. Nowadays, I am pursuing a doctor's degree with research area of heterogeneous robot system dynamic task planning and control supervised by Prof. Changhong Wang. During this period, I participated in several research projects of the Ph.D. supervisor. While learning the core task planning and control architecture, I also improved my engineering ability and mastered important tools such as single smart UAV path planning algorithm, C++, Python, Robot Operating System (ROS). Recently, I am enthusiastic about the problems on dynamic task assignment and path planning which could be used in partially observable heterogeneous robots system. Therefore, I can't imagine how honored I am if I have the opportunity to discuss some ideas with you and work with you.



## English

✧ PETS5

✧ CET-6

## Research Skills

### ➤ Interests:

Path planning (A\*, JPS, RRT, MDP, MPC, minimum snap etc.), Optimization  
 Robot Learning, Reinforcement Learning,  
 UAV, Pixhawk Autopilot and MAVLink

### ➤ Programming Languages:

C++, MATLAB, PYTHON

### ➤ Tools/ Software:

Robot Operating System, Git, TensorFlow, Rviz, Auto CAD, CATIA

## Educational Background

✧ 2013.9-2017.7	Harbin Institution of Technology	Control Science and Engineering	Bachelor
✧ 2017.9-now	Harbin Institution of Technology	Control Science and Engineering	Doctor

## Part of Awards

- ★ Yu Menglun science innovation scholarship in 2014-2015
- ★ The country pursues a scholarship in 2013-2014 & 2014-2015
- ★ Outstanding students of Heilongjiang Province 2015-2016
- ★ Bronze medal of Heilongjiang Province in entrepreneurship
- ★ Second class prize of China Aeromodelling Design Challenge 2015 (Team Leader)
- ★ Third class prize of China Aeromodelling Design Challenge 2014 (Second Author)
- ★ Champion of Intelligent UAV Cluster System Competition (over 50 teams participated), 2018. (Team Leader)
- ★ Winning prize of the Global (China) MathWorks Minidome Competitions for college students, 2019

## Project Experience

- ✓ **Range-limited payload UAV.** I am responsible for the system design, especially the dynamic model optimization of the aircraft wing using Profili and designing the CAD model of the Aircraft. September 2014-October 2015
- ✓ **Voice controlled car.** I am responsible for system architecture and the car's structure. October 2014- December 2016
- ✓ **Development of UAV Collaborative cluster system in unknown environment.** I am responsible for targets assignment and path planning for UAVs. April 2018- July 2018
- ✓ **Parrot mini drone path recognition and tracking using Simulink.** I am the supervisor of the project and I am responsible for project design and control algorithms. September 2019- November 2019
- ✓ **Smart UAV landing on moving UGV platform.** I am responsible for project design and control algorithms, in cooperation with Zhaozhe Wang. June 2018- March 2019

## Personal Experience

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✧	2015.9-2016.5	Harbin Institution of Technology	Aeromodelling Association of HIT	Section Chief
✧	2016.5-2017.6	Harbin Institution of Technology	Aeromodelling Association of HIT	President
✧	2013.9-2016.9	Harbin Institution of Technology	Department of Control Science and Engineering	Stuff Assistant

## Teaching

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- Teaching Assistant, [Motion Planning for Mobile Robotics](#), By Fei Gao (HKUST), Shenlanxueyuan, 2019.09-Present

## Hobbies

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- ✧ Model Airplane (2nd Prize of China Aeromodelling Design Challenge)
- ✧ Running (PB for Half-Marathons: 2hours and 4minutes)
- ✧ Table-tennis and tennis

CV·Bo Liu

