

JIE TANG

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Personal Page: www.tangjies.com

SKILLS

Programming Languages and Frameworks

C/C++, Matlab, Python, Qt, STM32, Embedded Linux

Software and Tools

ROS, Gazebo, Simulink, Docker, SolidWorks, CubeMX, Keil, Git, Makefile/CMake

Background knowledge

Control Theory, Data Structures, DSP, Circuit Design, Embedded System, Digital Communication

Algorithms and Libraries

PID, KF, EKF, LQR, H_∞ , A*, Dijkstra, ESC, Eigen, OpenCV, PCL, g2o, ceres

Others

Canadian Driver's License G, American Visa

EXPERIENCE

Teaching Assistant, University of Windsor

Jun.2017- May.2019

- Teaching assistant of 'Control systems' and 'Industry Control'
- Organized the laboratory experiments and give tutorials.

Researching Assistant, University of Windsor

Sep. 2016- Dec.2019

- Control of Multi-agent system by visual sensor.
- LQG (LQR+Kalman filter)& H_∞ combined control of nonlinear system.
- Lidar performance regulation using Extremum Seeking Control (ESC).

Telecommunications Engineer Intern, ZTE Corporation

Jan. 2016- Feb.2016

Configuration of Passive Optical Network(PON) in Metropolitan Area Network and Access Network

EDUCATION

University of Windsor. MAsC, Windsor, Canada

Sep.2017 - Dec.2019

Electrical Engineering (Robotic and Advanced Control)

GPA: %91.5

North China Electric Power University. BEng, Beijing, China

Sep.2012 - Sep.2016

Electrical and Computer Engineering (Telecommunication)

GPA: %82.3

PROJECTS

ROS and Pixhawk based Autonomous flight control

May. 2017- Jan.2018

-Developed an autonomous flight control system with Nvidia Jetson TX2 (high level controller) and pixhawk (low-level controller) by using MAVROS.

Multi-robot visual formation control (Master Thesis*)

March. 2018- May.2019

-Designed a formation control system allowed robots to keep a special pattern during moving, meanwhile, all the robots are in a visible zone(inside in the camera's Field of View) of others. video at <https://youtu.be/5x1tOIw7TJc>. codes at https://github.com/Alvintang6/robot_formation.

Robust control of the inverted pendulum

March. 2019- May.2019

-Designed a system to validate a new control structure which uses classical LQG controller for inner loop and H_∞ controller for outer loop to improve the robustness of system — the system can resist much larger disturbance from environments. video at <https://youtu.be/ZyAGczXnCfk>

Lidar performance autonomously regulating system

Aug.2019- Nov.2019

-Developed a Extremum Seeking Control based Lidar performance regulation system which can optimize the coverage, distance and intensity for a solid state Lidar.