

JIE TANG

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SKILLS

Programming Languages and Frameworks

C/C++, Matlab, Python, CUDA, STM32, Linux, FreeRtos

Software and Tools

ROS, Gazebo, Simulink, SolidWorks, CubeMX, Keil, Carsim, Git, CMake

Background knowledge

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

Algorithms and Libraries

PID, KF, EKF, Optimizing based Estimation, LQR, H_∞ , MPC, 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 in '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.