GUIQIU LIAO
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EDUCATION

Shanghai Jiao Tong University September 2016- Present

- S.M. in Electronic Information and Electrical Engineering, Shanghai, China
- Major: Navigation, Guidance and Control
- Thesis: Reliability Enhancement for navigation and control system of Unmanned Aerial Vehicle (UAV)
- Thesis adviser: Pro. Jiankang Zhao
- Anticipated Graduation: March 2019
- Grade Point Average: 3.48/4.0

Chong Qing University September 2012- June 2016

- B.A.Sc. in Electronic and Optical Engineering, Chongqing, China
- Major: Measurement & control Science and Technology
- Thesis: Autonomous Navigation and precise positioning for Quadcopter Helicopter
- Cumulative Grade Point Average: 3.89/4.0; Integrated Ranking: 3/107

EXPERIENCE

Laboratory of Navigation & Control, Shanghai Jiao Tong University August 2016 - Present

- Lead researcher of an Unmanned Aerial Vehicle (UAV) autopilot group
- Research on Multi Sensors Fusion navigation algorithm; System identification for Multi-rotors aircraft; Designed Controller based on interference estimation; Developed Control parameters self-tuning program; Developed autopilot mother board for Multi-rotors aircraft and fixed-wing UAV.

Bridge Crack Detection Aerial Robot Project September 2016 - June 2018

- Researcher and developer
- Researched the self-location algorithm based on Ultra Wide Band (UWB) transmission technology and inertial sensors, and developed self-location and control system for Aerial Robot.

Drones Supervision System Project November 2016 - June 2017

- Embedded system developer
- Developed drones supervision system based on multi-sensors and 4G network. Designed printed circuit board for drones supervision embedded system.

The Fifth National College Students' photoelectric Design Contest January 2016- July 2016

- Team leader of an Indoor Aerial Robot Task team
- Researched and implemented Image recognition and tracking algorithm; Researched and implemented optical flow algorithm; Design the Throwing Equipment for rotor craft; Researched indoor positioning and control algorithm for rotor craft; Developed rotor craft

software system based on Micro-Controller Operation System (MicroC/OS).

- Ranked Third in the finals (261 teams from 81 academies took part in this contest)

The 10th "Freescale" Cup National Smart Car Contest June 2014- August 2015

- Team leader of electromagnetic navigation smart car team
- Designed dynamic traction control algorithm and velocity control algorithm for smart car; Designed electromagnetic positioning sensor, and researched the electromagnetic positioning algorithm; Developed camera dynamic identification algorithm. Develop embedded software system for smart car.
- Ranked Fourth in the finals (more than 800 teams from more than 200 academies took part in this contest)

PUBLICATION & PATENT

Publication

Guiqiu Liao , Jiankang Zhao ,Chao Cui , Haihui Long, Jianbin Zhu and Achraf Djerida. "Time Synchronization Errors Compensated 6DOF motion estimation System Based on Low-Cost GPS/AHRS". Submitted for publication (submitted in November 2017, revised in May 2018), *Cambridge Journal of Navigation*.

Patents

Liming Chen, Guiqiu Liao, Tianchen Wang and Fang Chen. "Opening Detection Device for Electric valve". China Patent. ZL 20152 0218610.9. Chongqing University.

Liming Chen, Guiqiu Liao, Tianchen Wang and Fang Chen. "A New Smart Water Heater With no Waste of Cool Water". China Patent. CN104776608A.. Chongqing University.

SELECTED HONOR & REWARD

First Prize, the Fifth National College Students' photoelectric Design Contest (Indoor Aerial Robot Task) August 2016

Outstanding graduate, Chong Qing University June 2016

Outstanding graduation thesis Award, "Autonomous Navigation and precise positioning for Quadcopter Helicopter", Chong Qing University May 2016

First Prize, the 10th "Freescale" Cup National Smart Car Contest August 2015

Outstanding Project Award, Student Research Training Program(SRTP) April 2014

National Encouragement Scholarship 2013 - 2015

TECHNICAL

C++, C, MATLAB, Python, Labview, Altium Designer, Robot Operating System, MicroC/OS, Linux, IAR, KEIL,STM32 CubeMX, SOLID WORKS, LaTeX

REFERENCE

Video about some selected personal research experiences:

https://youtu.be/xTOzUz4OsrQ