

Guozheng Lu

No.18 Gaoxin South 4th Ave, Nanshan District
Shenzhen, China, 518057
☎ (86) 13510103915
✉ guozhenglu1@gmail.com

Education

2012–2016 **B.Eng. in Automation.**
Harbin Institute of Technology, Harbin, China

Work Experience

Jul 2016 – **Control Algorithm Engineer.**
Present *Da-Jiang Innovations Science and Technology Co., Ltd. (DJI-Innovations), Shenzhen, China*
Jul – Aug **Student Intern.**
2015 *AVIC Beijing Precision Engineering Institute Aircraft Industry, Beijing, China*

Honors and Awards

2016 **Championship in the RoboMaster 2016 season.**
For the champion team in the RoboMaster 2016 season, which was a national robotics competition in China initiated and undertaken by DJI-Innovations and jointly hosted by the Communist Youth League, All-China Students' Federation (ACSF) and Shenzhen Municipal Government.
2014 **Silver Medal in The 16th University Games of Heilongjiang.**
For the student-athletes who won the second prize in the 200-Meter Breaststroke Swimming, honored by the Heilongjiang Province Department of Education, China.
2013 **Innovention Project Achievement Award.**
For the Project "Automatic Clothes Hanger Machine", honored by Harbin Institute of Technology.

Research

Sep 2017 – **Model Based Control for Gimbal System of Drones.**
Present *DJI-Innovations, Shenzhen, China*
Advisor: [Prof. Fu Zhang](#)
• Dynamics modeling on SE(3) (the special Euclidean group) for aerial manipulator with structural modes.
• Multi-joint manipulator position control on workspace.
Mar – Aug **Attitude Estimation in Presence of Narrowband Noise.**
2017 *DJI-Innovations, Shenzhen, China*
Advisor: [Prof. Fu Zhang](#)
• Developed Augmented Indirect extended Kalman filter (EKF) for the complete system integrated with manipulator kinematics, sensor models and an adaptive notch filter, which is utilized to attenuate the narrowband noise caused by vibration and structural modes.
• Adaptive frequency estimation for accelerometer vibration noise by Least Mean Squares.
Nov 2016 – **Simultaneous Self-Calibration of Nonorthogonality and Nonlinearity of Cost-Effective**
Feb 2017 **Multiaxis Inertially Stabilized Gimbal Systems.**
DJI-Innovations, Shenzhen, China
Advisor: [Prof. Fu Zhang](#)
• Developed efficient algorithm based on product-of-exponential (POE) formula to calibrate joint axis direction and encoder nonlinearity of gimbal system.
Oct – Nov **Complementary filter design on SO(3) for Attitude Estimation.**
2016 *DJI-Innovations, Shenzhen, China*
Advisor: [Prof. Fu Zhang](#)
• A computationally cheap complementary filter design on SO(3) (the special orthogonal group) to provide attitude estimation of gimbal system.

Sep 2015 – **Indoor location System Based on Rotating Magnetic Beacon.**

Jun 2016 *Harbin Institute of Technology*, Harbin, China

Advisor: [Prof. Qinghua Li](#)

- Rotating magnetic sine signal identification.
- GPS-like indoor location method based on magnetic beacons position and rotating eigenvector orientation

Publications

- [J1] **Guozheng Lu**, and Fu Zhang, "IMU Based Attitude Estimation in the Presence of Narrow-band Noise," *IEEE Transactions on Robotics*, **Received**, Nov. 2017. ([PDF](#)).

Patents

- [P1] **Guozheng Lu**, and Fu Zhang, "A technique about an attitude estimation algorithm with noise rejection," PCT, Nov. 2017.