

# Ruoxiang Li | Curriculum Vitae

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🌐 Homepage

## RESEARCH INTEREST

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Visual SLAM, Event-based Vision, Computer Vision, Robotics

## EDUCATION

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**National University of Defense Technology (Non-military student)**

*Master of Engineering in Computer Science and Technology*

Advisor: Prof. Dr. Dianxi Shi

**Changsha, China**

*Sept. 2017 - June 2020*

**Northeastern University**

*Bachelor of Engineering in Internet of Things*

GPA: 3.8085/5 (Ranking: 6/59)

**Shenyang, China**

*Sept. 2013 - June 2017*

## PUBLICATIONS

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- **Ruoxiang, Li** and Dianxi, Shi and Yongjun, Zhang and Kaiyue, Li and Ruihao, Li, "FA-Harris: A Fast and Asynchronous Corner Detector for Event Cameras," Accepted by *IEEE/RSJ International Conference on Intelligent Robots and Systems (IROS)*, 2019.
- Kaiyue, Li and Dianxi, Shi and Yongjun, Zhang and **Ruoxiang, Li** and Ruihao, Li, "Feature Tracking Based on Line Segments with the Dynamic and Active-pixel Vision Sensor (DAVIS)," *IEEE Access* 7 (2019): 110874-110883.
- Zhuoyue, Yang and Dianxi, Shi and Yongjun, Zhang and Shaowu, Yang and Fu, Li and **Ruoxiang, Li**, "Multi-UAV Collaborative Monocular SLAM Focusing on Data Sharing," *International Conference on Neural Information Processing*. Springer, Cham, 2018.

## COMPETITION EXPERIENCE

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**ABU Robocon (Third Award, Best Design Award)**

*June 2015*

- **Team Task:** Independently design two robots cooperating to play badminton doubles.
- **Duties included:** Coordinate conversion, data acquisition and processing procedures based on Kinect for Windows v2 using C language, test the effect of illumination on Kinect depth camera.
- **Development Tools:** Halcon, Microsoft Visual Studio

**Robot Competition for Undergraduates in Liaoning Province (First Award)**

*Oct. 2014*

- **Team Task:** Independently design two robots cooperating to collect the golf balls in the designated area and transport the collected balls to the starting position.
- **Duties included:** Robot control program design, control the robot to collect the golf balls by fixed route based on LPC1700 series Cortex-M3 micro-controller and  $\mu C$ /OSII system (using C language).
- **Skills & devices:** CAN communication, Gyroscope, Encoder

## RESEARCH EXPERIENCE

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**Event-based Asynchronous Feature Detection**

*2018 - 2019*

- Aim to construct a feature detection method working directly on asynchronous event-streams.
- Proposed a fast and asynchronous event-based corner detection method achieving  $8\times$  speed-up.
- Presented an efficient event-corner candidates selection and refinement method.

## **Intelligent Unmanned Cluster System**

2017 - 2018

- Aim to construct operational support platform for the intelligent unmanned cluster system.
- Participated in the research about multi-UAV collaborative mapping based on multiple monocular cameras, which is part of the Incremental Global View Extension Technology.

## **CORE COURSES**

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### **Master**

2017 - 2018

- Machine Learning (A)
- Matrix Analysis and Calculation (B)
- Principle of Artificial Intelligence (B)
- Computational Complexity (B)
- Computational Geometry (B)
- Parallel Computing (B)

### **Bachelor**

2013 - 2017

- Object-Oriented Programming (C++) (97)
- Algorithm Design and Analysis (95)
- Probability Theory and Mathematical Statistics (90)
- Data Structures (89)
- Linear Algebra (86)

## **HONORS AND AWARDS**

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### **National University of Defense Technology**

2017 - Present

- Postgraduate Admission Scholarship (Nov. 2018)
- Outstanding Postgraduate (June 2019)

### **Northeastern University**

2013 - 2017

- Second-class Scholarship (Apr. 2014)
- Second-class Scholarship (Oct. 2014)
- Outstanding Student Leader (Oct. 2014)
- Third-class Scholarship (Nov. 2015)
- Outstanding Student Leader (Nov. 2015)
- First-class Scholarship (Oct. 2016)
- Zhongtian Iron and Steel Scholarship (Second-Class) (Oct. 2016)
- Second-class Scholarship (Oct. 2017)
- Outstanding Graduate of Liaoning Province (Mar. 2017)

## **REFERENCES**

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- **Prof. Dr. Dianxi Shi**  
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Affiliation: National University of Defense Technology, Changsha, 410073 , China
- **Dr. Ruihao Li**  
Email: liruihao2008@gmail.com  
Affiliation: Artificial Intelligence Research Center (AIRC), National Innovation Institute of Defense Technology(NIIDT), Beijing, 100166, China