

Fangqiang Ding

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EDUCATION EXPERIENCE

- University of Edinburgh** Edinburgh, United Kingdom
• *Ph.D. Student - Robotics and Autonomous Systems* *September 2021 - June 2025 (Expected)*
Scholarship: School of Informatics fully-funded CDT-RAS Scholarship
Research Topic: 4D Radar-Enabled Intelligent Perception
Supervisor: Dr. Chris Xiaoxuan Lu (Assistant Professor @ School of Informatics, University of Edinburgh)
- Tsinghua University** Beijing, China
• *Visiting Student - UAV Lab, Department of Automation* *August 2020 - September 2020*
Supervisor: Dr. Geng Lu (Associate Professor @ Department of Automation, Tsinghua University)
- Tongji University** Shanghai, China
• *Bachelor of Engineering - Mechanical Engineering; GPA: 4.73 (2/130)* *September 2017 - July 2021*
Supervisor: Dr. Changhong Fu (Associate Professor @ School of Mechanical Engineering, Tongji University)

RESEARCH INTEREST

- **Past:** Visual Object Tracking, Image Processing, UAV Self-localization
- **Present:** 4D mmWave Radar, Scene Flow Estimation, Human Pose/Mesh Reconstruction

RESEARCH PROJECTS

- 4D Automotive Radar Scene Perception** University of Edinburgh
• *Ph.D. Student* *September 2021 - Present*
 - **Detail:** Develop robust spatial and motion perception algorithms based on emerging 4D Automotive radar.
 - **Outcome:** One paper accepted by both IEEE RA-L and IROS'22.
- Real-Time and Robust UAV Tracker** Tongji University
• *Undergraduate Student* *May 2019 - January 2021*
 - **Detail:** Present novel algorithms to solve task-specific issues in UAV object tracking, such as background distractor, object shape variance, darkness, temporal continuity, without sacrificing the real-time performance on CPUs.
 - **Outcome:** Papers published by top-tier robotics (IROS/ICRA) and computer vision conference (CVPR), and relevant journals (IEEE TMM/EAAI) and magazine (IEEE GRSM).
- Monocular UAV Indoor Self-Localization** Tsinghua University
• *Visiting Student* *August 2020 - September 2020*
 - **Detail:** Apply visual tracker to UAV self-localization under air-ground robot coordination scenarios and design a benchmark for evaluation of different methods on proposed new task.
 - **Outcome:** Paper published by relevant top-tier journal (IEEE TIE).

SELECTED PUBLICATIONS

- **Fangqiang Ding**, Zhijun Pan, Yimin Deng, Jianning Deng, Chris Xiaoxuan Lu. *Self-Supervised Scene Flow Estimation with 4-D Automotive Radar* (IEEE RA-L & IROS'22) [link]
- **Fangqiang Ding**, Changhong Fu, Yiming Li, Jin Jin and Chen Feng. *Automatic Failure Recovery and Re-Initialization for Online UAV Tracking with Joint Scale and Aspect Ratio Optimization* (IROS'20) [link]
- Changhong Fu, **Fangqiang Ding**, Yiming Li, Jin Jin and Chen Feng. *Learning Dynamic Regression with Automatic Distractor Repression for Real-Time UAV Tracking* (EAAI) [link]
- Yiming Li, Changhong Fu, **Fangqiang Ding**, Ziyuan Huang and Geng Lu. *AutoTrack: Towards High-Performance Visual Tracking for UAV with Automatic Spatio-Temporal Regularization* (CVPR'20) [link]
- Changhong Fu, Bowen Li, **Fangqiang Ding**, Fulin Li and Geng Lu. *Correlation Filter for Unmanned Aerial Vehicle-Based Aerial Tracking: A Review and Experimental Evaluation* (IEEE GRSM) [link]

HONORS AND AWARDS

- Grand Prize of the "Challenge Cup" Competition in Shanghai - June, 2021
- Shanghai Outstanding Graduate - May, 2021
- Academic Star in Tongji University - November, 2020
- National Scholarship - September, 2019
- National Scholarship - September, 2018
- First Prize of Tongji Mathematics Competition - June, 2018
- First Prize of Shanghai Graphics Innovation Design Competition - May, 2018

ACADEMIC SERVICE

- **Reviewer:** IROS, ICRA, IEEE RA-L
- **Teaching Assistant:**
Introduction to Vision and Robotics (2021-2022) (University of Edinburgh)
Introduction to Mobile Robotics (2022-2023) (University of Edinburgh)