



Yutong Liu

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Basic Information

Major: Computer Science and Technology

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Personal Highlights

I pursued my Ph.D. degree in the Advanced Network Laboratory of Shanghai Jiao Tong University, under the supervision of Professor Linghe Kong. I have **rich experience in research, project, education, and team affairs**. At first, my research direction is **multi-modal collaboration-based intelligent wireless sensing**, where I proposed “wireless+” sensing schemes for service robot intelligence in the post-epidemic era. I have published **6 papers as the first author (including a CCF-A paper, a high-IF SCI Q1 paper, and a CCF-B best paper)**, co-published 7 papers, and authorized 1 national invention patent. Secondly, I have participated in several National Key Research and Development and NSFC programs as the main staff, and have been mainly responsible for a collaboration program with Huawei. Thirdly, I have been a teacher assistant (TA) for 4 courses and editorship for the compilation of a textbook. At last, I also have five-year student and project management experience in Prof. Kong’s team.

Education Experience

2017.9-2022.6 Shanghai Jiao Tong University Computer Science and Technology Ph.D.
GPA: 3.74/4.00 (Top 10% of majors)

- Honors: Weichai Power Scholarship, Intel Excellent Fellowship Award
- Research Direction: Internet of Things, Wireless Sensing, Intelligent Computing

2013.9-2017.6 Ocean University of China Computer Science and Technology Bachelor

- GPA: 3.82/4.00 (Ranking 7/129)
- Honors: National Scholarship, First-class Study Scholarship, “Outstanding Student” title
- Major Courses: Computer Network, Graph Theory, Operating System, etc.

Representative Academic Achievements

- [1] **Yutong Liu**, Landu Jiang, Linghe Kong, Qiao Xiang, Xue Liu, Guihai Chen. “Wi-Fruit: See Through Fruits with Smart Devices”. ACM UBICOMP, 2022. (CCF-A Conference)
- [2] **Yutong Liu**, Linghe Kong, and Guihai Chen. "Data-oriented mobile crowdsensing: A comprehensive survey." IEEE Communications Surveys & Tutorials 21.3 (2019): 2849-2885. (SCI Q1, IF: 25.249)
- [3] Linghe Kong, **Yutong Liu**, Yunxin Liu, Le Zheng, Meikang Qiu, Guihai Chen. “WheelLoc: Practical and Accurate Localization for Wheeled Mobile Target via Integrated Sensing and Communication”. IEEE JSAC, 2022. (CCF-A Journal)
- [4] **Yutong Liu**, Linghe Kong, Fan Wu, Guihai Chen. “GroupCoach: Compressed Sensing Based Group Activity Monitoring and Correction”. IEEE/ACM IWQoS, Hangzhou, China, 2020. (CCF-B Conference, Best Paper Award)
- [4] **Yutong Liu**, Linghe Kong, Muhammad Hassan, Long Cheng, Guangtao Xue, Guihai Chen. “Litedge: Towards Light-weight Edge Computing for Efficient Wireless Surveillance System”. IEEE/ACM IWQoS, Phoenix, AZ, USA, 2019. (CCF-B Conference)
- [5] **Yutong Liu**, Linghe Kong, Guihai Chen, Fangqin Xu, Zhanquan Wang. “Light-weight AI and IoT

- Collaboration for Surveillance Video Pre-processing". JSA, Vol. 114, No. 101934, 2021. (CCF-B Journal)
- [6] **Yutong Liu**, Linghe Kong, Yifeng Cao, Vahan Sarafian, Long Cheng, Guihai Chen. "Stop Unauthorized Access to Your Smart Devices". IEEE ICPADS, Singapore, 2018.
 - [7] Junqin Huang, Linghe Kong, Jiejian Wu, **Yutong Liu**, Yuchen Li, and Zhe Wang. "Learning-based congestion control simulator for mobile internet education." ACM Mobicom Workshop (MobiArch), pp. 1-6. 2021. (Education related publication)
 - [8] Caiqian Zhang, **Yutong Liu**, Linghe Kong, Guihai Chen, Jianhua Gao, Zhen Wang. "mNB-IoT: Concurrent Uplink Transmission for Multiple User Equipments in NB-IoT". IEEE WCNC, 2021.
 - [9] Yuhui Qian, **Yutong Liu**, Linghe Kong, Min-You Wu, and Shahid Mumtaz. "ReFeR: Resource Critical Flow Monitoring in Software-Defined Networks." IEEE GLOBECOM, 2018.

National Invention Patent

- Linghe Kong, **Yutong Liu**, "面向无线通信增强的多点联合传输方法与系统", CN201811053979.3, Date of Grant: 2021-04-13

Representative Project Experience

- 2020-- **National Key Research and Development Program** "融合 5G-U 的工业异构广域网络体系架构及终端设备研发"
Experience: Participate in the writing of project application and project mid-term report, and act as the team leader to guide and promote the research progress of the project.
- 2020-- **NSFC** "工业互联网边缘计算体系架构、协同优化与智能决策方法"
Experience: Propose a collaborative validation-based edge computing architecture in industrial internet. The corresponding work is published as two CCF-B papers.
- 2020-- **NSFC-FRQ** "大数据驱动的智慧城市服务运营管理--基于系统耦合的视角"
Experience: Propose a transmission optimization strategy for big data in the intelligent city. The corresponding work is published as one High-IF survey paper and two CCF-B papers.
- 2017-2018 **HUAWEI HIRP** "机器人协作通信研究"
Experience: **Principle** for project management. Proposed a joint transmission method to improve the concurrent transmission efficiency in IoT and obtained a national invention patent authorization.

Honors and Awards

Scholarships:

- 2021 Weichai Power Scholarship
- 2019 Intel Excellent Fellowship Award
- 2013-2017 National Scholarship, Luxin Scholarship, 4 times of the First-class Study Scholarship and "Outstanding Student" honorable title

Competitions:

- 2020 Second prize of China Graduate Mathematical Modeling Competition
- 2019 Innovative Award of Ebay Hackathon
- 2018 First prize of the National University Internet Application Innovation Competition
- 2016 Honorable Mention Award of American Mathematical Contest in Modelling
- 2015 "Outstanding debater" in school-level debate competition

Teaching Experience

- 2021.01-- General editorship of "Engineering Information Management" textbook
- 2021.03-2021.06 TA in "Introduction to Computer" undergraduate course and "Mobile Internet Frontier Technology" postgraduate course
- 2019.09-2020.12 TA in "Engineering Information Management" postgraduate course (two semesters)
- 2020.07-2020.08 TA in "Mobile Internet Frontier Technology" postgraduate course
- 2019.03-2019.06 TA in "Computer Network" undergraduate course
- Supervise master students to publish 4 papers and serve as VTC2020/2021 TPC member