

Education

Ph.D	Computer Science, Georgia Institute of Technology Advisor: Prof. Ling Liu	Aug.2017-Present
Master	Information and Communication Engineering, Beijing University of Technology Advisor: Prof. Yanhua Zhang, Prof. Pengbo Si	Sep.2014-Jul.2017
Bachelor	Electronic and Information Engineering, Beijing University of Technology	Sep.2010-Jul.2014

Research Interests

My research fields are in **WiFi-GPS Localization, Deep Learning for Localization, Middleware Systems, Wireless Communications Systems, Wireless Sensor Networks and Embedded Systems.**

Publications

- [1]. **Shuo Liu**, Pengbo Si, Yu He. *"Edge Big Data-Enabled Low-Cost Indoor Localization Based on Bayesian Analysis of RSS"*, 15th IEEE Wireless Communications and Networking Conference(WCNC), San Francisco, CA, Mar. 2017.
- [2]. **Shuo Liu**, Pengbo Si, Xiaohan Gao, *"A Rapid Optimization Approach for Anti-jamming of Frequency Hopping System"*, 9th IEEE International Conference on Communication Software and Networks(ICCNS), Guangzhou, China, May 2017.
- [3]. **Shuo Liu**, Pengbo Si, Yu He. *"A Pinpoint WiFi-Based Localization Using AP Trace-back Algorithm with Micro-LDPL-Model"*, Ad Hoc & Sensor Wireless Networks, submitted.

Patents

- [1]. **Shuo Liu**, Xiaochu Zhang, Pengbo Si, *"Indoor Wireless Positioning Method Based on a WiFi Signal Intensity Simulation and Position Fingerprint Algorithm"*, Patent No. 201510729844.5
- [2]. Pengbo Si, **Shuo Liu**, Yu He, *"An Indoor Wireless Localization Method Based on Edge Computing and Bayesian Posterior Probability"*, Patent No. 201610426115.6
- [3]. Pengbo Si, **Shuo Liu**, Yu He, *"WiFi Signal and Micro-LDPL-Model based AP Trace-back Algorithm for Indoor Localization"*, Patent No. 201610424454.0

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- [1]. Xiaochu Zhang, **Shuo Liu**, *"Indoor localization System Based on the Fingerprint of WiFi"*, No.2015SR084036
- [2]. Zhaoxin Yang, **Shuo Liu**, Fan Zhang, *"Data Sampling system for Environmental Monitoring Based on ZigBee"*, No.2016SR094964
- [3]. Fan Zhang, **Shuo Liu**, Zhaoxin Yang, *"Terminal Software for Environmental Monitoring Based on Zigbee"*, No.2016SR094968

Research Experience

Research on Multi-Modal Localizations with Deep Learning, Advisor: Prof. Ling Liu **Aug.2017-Present**

- Implement multi-modal sensor process methods to increase the accuracy, efficiency and robustness of localization systems;
- Combine machine learning methods(especially deep learning methods) with conventional fusion methods with multi-modal localizations;
- Build a system for localizations in Gatech with JAVA, Python, and any useful programming languages.

Research on Indoor Localization System based on the WiFi Signal, Advisor: Prof. Yanhua Zhang, Prof. Pengbo Si **Mar.2014-Jun.2014**

Supported by **the National Natural Science Foundation of China**, No. 61571021

- Programed with Java to construct a wireless localization system, which was based on the WiFi signal, on Android;
- Introduced Edge Computing and Cloud Computing to the localization process, and the system included two ends, host computer(Server) and Android mobile phone(Terminal);
- Proposed and tested several localization algorithms, such as Micro-LDPL Model and Bayesian Analysis, and reached a sound localization result in the practical environment.

Internship Experience

DJI-Innovations **Apr.2015-Aug.2015**

Position: Assistant Engineer, Advisor: Prof. Kebin Jia

- Associated the 19th group of DJI to implement the module verification and the integration testing for the unmanned aerial vehicle.
- Wrote the verification program, including the connection testing of DSP6678, encapsulation of bottom functions and modification of stability, via C, C++ and assembly language in the environment of CCS and VC6.0;
- Wrote the process of integration, including module upgrade, self-maintenance, carriage calculation, and navigation positioning.