

Ruirong Chen

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Education

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| Ph.D candidate in Electrical and Computer Engineering
University of Pittsburgh, Pittsburgh, PA USA
Advisor: Professor Wei Gao | 08/2017 - Present |
| Master of Electrical and Computer Engineering
University of Florida, Gainesville, Florida USA | 08/2015 - 05/2017 |
| Bachelor of Engineering in Communication Engineering
Harbin Institute of Technology, Harbin, Heilongjiang China | 09/2011 - 07/2015 |

Research Interests

Wireless networks, Wireless sensing, Internet of Things and Smart health

Research Experiences

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| Graduate Research Assistant, University of Pittsburgh | 09/2017 – Present |
| <ul style="list-style-type: none">- Developed and implemented a new Wireless Physical layer design that enables cross-technology coexistence between different wireless technologies. Such PHY design enables ultra-low latency communications for all coexisted wireless technologies.- Design a wireless side channel that enables low latency and collision free communications in a congested wireless channel. The side channel operates independently without impacting main channel performance and achieves 2.5Mbps throughput. | |
| Research Assistant, University of Florida | 09/2015 – 05/2017 |
| <ul style="list-style-type: none">- Designed and built an acoustic underwater communication modem for a compact AUV. The modem achieves 20kbps/s data rate with 2FSK modulation.- Built an operational electronic system for a compact AUV. The system enables motor control, optical communication and wireless communication system. | |
| Undergraduate Consultant, Harbin Institute of Technology | 04/2014 – 05/2015 |
| <ul style="list-style-type: none">- Design a new low latency channel accessing protocol in Medium Access Control. | |

Publications

1. Ruirong Chen and Wei Gao. "WiFree: Cost-free Custom Physical-layer Wireless for Commodity Devices", The 18th ACM Conference on Embedded Networked Sensor Systems (SenSys), 2020. (Submitted)
2. Ruirong Chen and Wei Gao. "StarLego: Enabling Custom Physical-Layer Wireless over Commodity Devices", The 21st International Workshop on Mobile Computing Systems and Applications (HotMobile). 2020.
3. Lu, Haoyang, Ruirong Chen, and Wei Gao. "EasyPass: combating IoT delay with multiple access wireless side channels." Proceedings of the 15th International Conference on Emerging Networking Experiments and Technologies (CoNEXT). 2019. (Best paper award)
4. Ruirong Chen and Wei Gao. "Enabling Cross-Technology Coexistence for Extremely Weak Wireless Devices", in Proceedings of the 38th IEEE Conference on Computer Communications (INFOCOM), 2019.
5. Yuqi Li, Ruirong Chen, Xingzhe Song, Wei Gao, Wei Chen and Erick Forno. "Device-Free Acoustic Motion Tracking over Targets with Large Sizes", The 16th IEEE International Conference on Mobile Ad-Hoc and Smart Systems (MASS). 2019.
6. Ruirong Chen, Haoyang Lu, and Wei Gao. "Minimizing Wireless Delay with a High-Throughput Side Channel." IEEE Transactions on Mobile Computing. 2019.
7. Zhuoyuan Song, Cameron Mazzola, Eric Schwartz, Ruirong Chen, Julian Finlaw, Mike Krieg, Kamran Mohseni, "A Compact Autonomous Underwater Vehicle with Cephalopod-Inspired Propulsion." Marine Technology Society Journal 50.5 (2016): 88-101.

Honors

Best paper award, ACM CoNEXT 2019	12/2019
Student Travel Grant, IEEE INFOCOM 2019	05/2019
Student Travel Grant, ACM HotMobile 2020	02/2020

Leadership Experience

Dean, HIT International Communication Association	05/2012 – 05/2014
Volunteer, Summer Camp	08/2012