Longzhi Yuan

Curriculum Vitae

University of Science and Technology of China
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Education

2017.9–2023.6 **Ph.D., Data Science (Computer Science and Technology)**, *University of Science and Technology of China*, Hefei, China,
Research topic: Wireless systems and Internet-of-things,
Supervisor: Dr. Wei Gong

2013.9–2017.6 **B.E., Electronic Information Engineering**, *University of Science and Technology of China*, Hefei, China
Supervisor: Dr. Weidong Chen

Research Interests

My research focuses on **wireless systems and Internet-of-Things**. I worked to develop low-power **backscatter** systems, improve their throughputs, and make them compatible with commercial radios. I am also familiar with **battery-free systems and wearables**, where backscatter technology can be combined with energy harvesting and bio-sensing to serve for health-condition monitoring.

Publications

MobiSys'23 **Longzhi Yuan**, Wei Gong. Enabling Native WiFi Connectivity for Ambient Backscatter. ACM MobiSys 2023.

TON'22 **Longzhi Yuan**, Wei Gong. Multiprotocol Backscatter with Commodity Radios for Personal IoT Sensors. IEEE/ACM Transactions on Networking, 2022.

ICNP'22 **Longzhi Yuan**, Wei Gong. SubScatter: Sub-symbol WiFi Backscatter for High Throughput. IEEE ICNP 2022.

PerCom'21 **Longzhi Yuan**, Can Xiong, Si Chen, Wei Gong. Embracing Self-Powered Wireless Wearables for Smart Healthcare. IEEE PerCom 2021.

ICCC'20 **Longzhi Yuan**, Rongrong Zhang, Kai Yang, Si Chen, Wei Gong. Protocol-Aware Backscatter Communication Using Commodity Radios. IEEE/CIC ICCC 2020. **(Best paper award)**.

CoNEXT'20 Wei Gong, **Longzhi Yuan**, Qiwei Wang, Jia Zhao. Multiprotocol backscatter for personal IoT sensors. ACM CoNEXT 2020.

MobiSys'22 Poster **Longzhi Yuan**, Wei Gong. Poster: High-Throughput Backscatter Using Commodity WiFi. ACM MobiSys 2022.

MobiSys'22 Yifan Yang, **Longzhi Yuan**, Jia Zhao, Wei Gong. Content-Agnostic Backscatter from Thin Air. ACM MobiSys 2022.

Applied Science'22 — Yimeng Huang, **Longzhi Yuan**, Wei Gong. Research on IEEE 802.11 OFDM Packet Detection Algorithms for Household Wireless Sensor Communication. MDPI Applied Science 2022.

Computer Networks'22 — Weiqi Wu, Xingfu Wang, Ammar Hawbani, **Longzhi Yuan**, Wei Gong. A survey on ambient backscatter communications: Principles, systems, applications, and challenges. Elsevier Computer Networks 2022.

ICSPS'17 — Yuming Shao, Yulong Dai, **Longzhi Yuan**, Weidong Chen. Deep Learning Methods for Personnel Recognition based on MicroDoppler Features. ACM ICSPS 2017.

Main Awards

2022 — Student Travel Grant Award, ACM MobiSys.

2022 — Jac Weilai Automobile Scholarship, USTC.

2020 — Best Paper Award, IEEE/CIC ICCC.

2016 — Excellent student scholarship (Bronze), USTC.

2014 — Excellent student scholarship (Bronze), USTC.

Presentations and Talks

Conference Presentation — SubScatter: Sub-symbol WiFi Backscatter for High Throughput. IEEE ICNP, November 2022, Virtual Event.

Conference Poster — Poster: High-Throughput Backscatter Using Commodity WiFi. ACM MobiSys, June 2022, Virtual Event.

Conference Presentation — Embracing Self-Powered Wireless Wearables for Smart Healthcare. IEEE PerCom, March 2021, Virtual Event.

Conference Presentation — Protocol-Aware Backscatter Communication Using Commodity Radios. IEEE/CIC ICCC, August 2020, Virtual Event.

Conference Presentation — Multiprotocol backscatter for personal IoT sensors. ACM CoNEXT, December 2020, Virtual Event.

Professional Activities

Review — IEEE Transactions on Networking, 2022.