Haoqiu Xiong

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Education

Southern University of Science and Technology　　　　　　　　　　　　　　**Shenzhen, China**
Master of Engineering in Electronic Science and Technology　　　　　　　　　　*2019 – Present*
GPA: 3.42/4.00

Harbin Engineering University　　　　　　　　　　　　　　　　　　　　　**Harbin, China**
Bachelor of Science in Optoelectronic Information Science and Engineering with Honors　　*2015 – 2019*
GPA: 90.3/100 (Rank 7/91)

Internships and Projects

Intern at Wireless Technology Lab　　　　　　　　　　　　　　　　　　　**Shenzhen, China**
Huawei Technologies Co., Ltd　　　　　　　　　　　　　　　　　　　　　*July, 2020 – Present*

- We have built a dual-frequency continuous wave radar system to achieve both localization and activity/gesture recognition. The proposed method accomplished the classification accuracy over 91% with 8 motion classes with a localization accuracy in the centimeter level (This work was published on IEEE Sensors Journal[3]).
- We have developed a multiple channel (up to 8) zero-IF baseband platform, which could be adopted for signal transmitting or receiving. A sample rate of 80 MS/s could be achieved at each individual channel.
- Currently, we are working on the motion detection based on the channel state information (CSI) generated from commercial Wi-Fi devices. 95% detection accuracy is achieved with the method we proposed under the condition of low sampling CSI frequency and short observation time. The generalization of the propose method is under improving.
- Currently, I am working on a RF skeleton system, which could infer human skeletons from radar signals. Right now, we are trying to make it work with multiple people.

Teaching Assistant of Application Specific Integrated Circuit (ASIC)　　　　　　**Shenzhen, China**
Southern University of Science and Technology　　　　　　　　　　　　　　　*March - June, 2021*

- Ran lab sessions and assisted students with labs and teach debugging skills
- Graded the assignments

Developed a RFID reader based on ZYNQ-7000 AP SoC ZC706 and AD9361　　　**Shenzhen, China**
Southern University of Science and Technology　　　　　　　　　　　　　　　*2018 - 2019*

- Developed baseband modules
- Proposed a carrier cancellation method based on the system, a suppression of around 92 dB to 106 dB can be achieved within 0.5 milliseconds. This work was published on IEEE Microwave and Wireless Components Letters[1].

Publications

[1]: **Haoqiu Xiong**[1], Chuankui Shen and Terry Tao Ye, 'Broadband and Fast Carrier Cancellation for Backscattered RFID Communications,' in IEEE Microwave and Wireless Components Letters, vol. 31, no. 1, pp. 84-87, Jan. 2021.

[2]: Chuankui Shen, **Haoqiu Xiong**[2], Xu Wang, Fengcheng Mei and Terry Tao Ye, 'A Fast Self-Jamming Cancellation Architecture and Algorithm for Passive RFID Sensor System,' in IEEE Communications Letters, vol. 25, no. 6, pp. 2019-2013, June 2021.

[3]: Yingxiang Sun[1], **Haoqiu Xiong**[1], Danny Kai Pin Tan, Tony Xiao Han, Rui Du, David Xun Yang and Terry Tao Ye, 'Moving Target Localization and Activity/Gesture Recognition for Indoor Radio Frequency Sensing Applications,' in IEEE Sensors Journal, vol. 21, no. 21, pp. 24318-24326, 1 Nov.1, 2021.(1st co-author)

Skills

Proficient with a multitude of programming languages and concepts, including:

- C, MATLAB, Python, Verilog, Labview, HFSS
- TensorFlow, Pytorch, LaTeX, Linux

Honors and Achievements

Commencement Speech in Harbin Engineering University — Harbin, China
As one of 2 outstanding students over 3000 graduates — *2019*

First-class scholarships of University — Harbin, China
Throughout 4 years in college — *2016-2018*

Provincial-Level Merit Student of Heilongjiang Province — Harbin, China
Each year only 1 or 2 places over 160 students — *2017*

National Encouragement Scholarships — Harbin, China
Each year 4 places over 96 students — *2016, 2017*

First Prize in Heilongjiang Competition Area of National Mathematical modeling Contest — Harbin, China
Model topic:The influence of the community's openness to traffic circulation — *2016*

Relevant Course Work

- Introduction to Wireless Communication
- Antenna Theory and Techniques
- Probability and Statistics
- Linear Algebra
- Digital Signal Processing
- Matrix Analysis and Applications
- Application Specific Integrated Circuit(ASIC)
- Fundamentals of Analog Electronics
- Digital Fundamentals
- Math.physics Equation
- Applied Optics
- Physical Optics
- Theory and Technology of Fiber-optic
- Photoelectron Basis
- Laser Theory
- Nonlinear Optics

Involvement

Committee Member of Student Union — ShenZhen, China
Planed and organized 4 activities — *2019-2021*

Member of Sunshine International Camp — Beijing, China
Held by CEO Global Education Foundation, about leadership training — *2017*