

# XIANG MA

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Expected graduate time: May 2024

## EDUCATION EXPERIENCE

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**Utah State University**      **Electrical Engineering**      PhD      August 2019 - Present  
Work in USU network innovation lab, focus on federated learning via wireless communication.  
Research on the positioning of vehicles using RFID in the large city environments.

**SUSTech**      **Electrical Engineering**      BEng      August 2013 - June 2017  
Optimize ZigBee Protocol in IoT lab, achieve two transmissions simultaneously.  
Campus WLAN signal traffic test, provide useful advice to the IT department.

## RESEARCH INTERESTS

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**Federated Learning**  
**Machine Learning Privacy & Security**  
**5G, NOMA**

## TEACHING EXPERIENCE

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Work as a lab class teaching assistant:

ECE 5600: Introduction to Computer Networks, Fall 2020, Fall 2021.

ECE 6600: Wireless and Mobile Networking, Spring 2021, Spring 2022.

## WORK EXPERIENCE

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**Sangfor Technologies, China (June 2017-June 2019).**

*Software Engineer*

Work in virtual technology (VT) department and take part in data backup project for the data IO.  
Develop a verification tool to find data backup bugs.

## PUBLICATIONS

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### Journal Publications:

1. H. Sun, **X. Ma**, and R. Q. Hu, "Adaptive Federated Learning With Gradient Compression in Uplink NOMA," *IEEE Trans. Veh. Technol.*, vol. 69, no. 12, pp. 16325-16329, 2020.

### Conference Publications:

1. **X. Ma**, H. Sun, R. Q. Hu and Yi Qian, "A New Implementation of Federated Learning for Privacy and Security Enhancement," in *Proc. IEEE GLOBECOM*, Rio de Janeiro, Brazil, Dec. 2022.
2. **X. Ma**, H. Sun, Qun Wang and R. Q. Hu, "User Scheduling for Federated Learning Through Over-the-Air Computation," in *IEEE VTC 2021 Fall*
3. **X. Ma**, H. Sun, and R. Q. Hu, "Scheduling policy and power allocation for federated learning in NOMA based MEC," in *Proc. IEEE GLOBECOM*, Taipei, Taiwan, Dec. 2020.
4. H. Sun, Q. Wang, **X Ma**, Y. Xu, R. Q. Hu, "Towards Green Mobile Edge Computing Offloading Systems with Security Enhancement," *2020 Intermountain Engineering, Technology and Computing (IETC)*, Orem, UT, USA, 2020, pp. 1-6.

## HONORS AND AWARDS

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- IEEE ICC2022 NSF travel award.
- Excellent New Employee in Sangfor Technologies, 2017
- Newly-Established Scholarship from SUSTech, 2013-2016

## SERVICES

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Graduate Student Council, USU, 2022-  
ECE department faculty candidate interview, USU, 2022  
President of Chinese Student Association, USU, 2020-2021  
Freshman Instructor Assistant, SUSTech, 2015-2016

## PROFESSIONAL SOCIETIES

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IEEE Student Member

## SKILLS & EXPERTISE

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<b>Computer Languages</b>	Java, Python, C
<b>Software</b>	Matlab, LabView, Latex, GNU Radio
<b>Hardware</b>	Arduino, Raspberry Pi, USRP