

# Yulong Liu | Curriculum Vitae

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*Brisk, Hardy and Avoid Boring*

## RESEARCH INTERESTS

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Internet of Things, RFID, Wearable Electronics, Antenna Design, E-Textile, Embedded Systems and Engineering Optimization.

## EDUCATION

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**Southern University of Science and Technology**  
*Bachelor of Communication Engineering*

**Shenzhen, China**  
*August 2015 - July 2019*

## EXPERIENCE

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**Southern University of Science and Technology**  
*Research Assistant*

**Shenzhen, China**  
*July 2019 - now*

- Working on design and fabrication of conductive-yarn-related embroidered electronics for wearable applications, including sensors, transmission line, antennas and etc.
- Incorporating the RFID technology with existing sensors to achieve wireless and battery-less sensing within the human body area.

**Laxcen Technology Limited**  
*Trainee Engineer*

**Shenzhen, China**  
*June 2018 - December 2018*

- Modeling a near field UHF RFID reader antenna with HFSS. This antenna (referred to as "Zero-Phase-Shift-Loop", or "ZPSL" antenna) overcame the problem of unwanted read range and increased the interrogation area.
- Designed and prototyped several types of UHF RFID tag antennas, and tested their performance under practical environment, which exhibits good potential to be commercialized.

## SERVICE

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- Reviewer for IEEE Journal of Radio Frequency Identification 2019 - 2020
- Member of Shenzhen Volunteer Association 2018
- Publicity Director of the Student Union 2016 - 2017

## AWARDS AND ACHIEVEMENTS

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- Third Prize Scholarship (SUSTech) 2018
- National Encouragement Scholarship (Ministry of Education of the People's Republic of China) 2017
- Shude College Scholarship (SUSTech) 2017
- Fresh Man Scholarship (SUSTech) 2015

## PUBLISHERMENTS

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### Journal Publications.....

1. **E-Textile Battery-less Displacement and Strain Sensor for Human Activities Tracking**  
**Yulong Liu**†, Mengxia Yu†, Bingyi Xia, Silong Wang, Miao Wang, Mingxun Chen, Siqi Dai, Tingzhe Wang, and Terry Tao Ye\*  
IEEE Internet of Things Journal (Accepted)
2. **Coolmax/Graphene-Oxide Functionalized Textile Humidity Sensor with Ultrafast Response for Human Activities Monitoring**  
Lulu Xu†, Heng Zhai†, Xiao Chen, **Yulong Liu**, Miao Wang, Zhangchi Liu, Muhammad Umar, Chengyu Ji, Zhongda Chen, Lu Jin, Zekun Liu, Qingwen Song, Pengfei Yue, Yi Li\* and Terry Tao Ye\*  
Chemical Engineering Journal, <https://doi.org/10.1016/j.cej.2021.128639>.
3. **Exploiting Embroidered UHF RFID Antennas as Deformation Sensors**  
Mengxia Yu, Xuanyu Shang, Miao Wang, **Yulong Liu** and Terry Tao Ye\*  
IEEE Journal of Radio Frequency Identification, vol. 4, no. 4, pp. 406-413, Dec. 2020, doi: 10.1109/JR-FID.2020.3030790.
4. **Characterizations and Optimization Techniques of Embroidered RFID Antenna for Wearable Applications**  
**Yulong Liu**, Mengxia Yu, Lulu Xu, Yi Li and Terry Tao Ye\*  
IEEE Journal of Radio Frequency Identification, vol. 4, no. 1, pp. 38-45, March 2020, doi: 10.1109/JR-FID.2019.2961189.

### Conference Publications.....

1. **Wearable Deformation Sensor with Ambient Interference Rejection Using Differential Backscattered RFID Signals**  
Siqi Dai†, Tingzhe Wang†, **Yulong Liu**\* and Terry Tao Ye\*  
2021 IEEE International Conference on RFID (RFID), Atlanta, GA, USA, 2021.
2. **Coupled Planar Coil (CPC) Antenna as a Displacement Sensor for NFC or HF RFID Tags**  
**Yulong Liu** and Terry Tao Ye\*  
2020 IEEE International Conference on RFID (RFID), Orlando, FL, USA, 2020.
3. **Textile Based Embroidery-Friendly RFID Antenna Design Techniques**  
**Yulong Liu**, Lulu Xu, Yi Li and Terry Tao Ye\*  
2019 IEEE International Conference on RFID (RFID), Phoenix, AZ, USA, 2019, pp. 1-6.
4. **Deformation Sensitivity Study of Embroidered UHF RFID Antennas**  
Mengxia Yu†, Xuanyu Shang†, Miao Wang, **Yulong Liu** and Terry Tao Ye\*  
2019 IEEE International Conference on RFID Technology and Applications (RFID-TA), Pisa, Italy, 2019, pp. 322-326, doi: 10.1109/RFID-TA.2019.8891966.
5. **Passive Embroidered Stretch Sensor Utilizing UHF RFID Antennas**  
Mengxia Yu, Silong Wang, **Yulong Liu** and Terry Tao Ye\*  
2019 IEEE International Conference on Ubiquitous Intelligence and Computing (UIC), August 2019, Leicester, UK.

6. **Design and fabrication of embroidered RFID antennas for wearable applications**

Lulu Xu, **Yulong Liu**, Pui Yi Lau, Haitao Si and Terry Tao Ye\*

2018 IEEE International Conference on Service Operations and Logistics, and Informatics (SOLI), July 2018, Singapore, pp. 118–122.

**Workshop Publications** .....

1. **Embroidered Inductive Strain Sensor for Wearable Applications**

**Yulong Liu**, Miao Wang, Mengxia Yu, Bingyi Xia and Terry Tao Ye\*

2020 IEEE International Conference on Pervasive Computing and Communications (PerCom 2020) workshop on PerLS, March 2020, Austin, USA.

2. **Fabrics-Based Embroidered Passive Displacement Sensors for On-Body Applications**

**Yulong Liu**, Miao Wang, Bingyi Xia and Terry Tao Ye\*

International Conference on Embedded Wireless Systems and Networks (EWSN) 2020 workshop on OBSN, 17–19 February 2020, Lyon, France.