SHUTONG QI

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■ EDUCATION BACKGROUND

Beihang University (BUAA) 09/2016-07/2020

- Bachelor of Engineering in **Electronic Information Engineering**
- Cumulative GPA: **3.72/4.0**, Major GPA: **3.76/4.0**

Technical Highlights: MATLAB, Python, COMSOL, Multisim, Verilog, C, C++, Solid Edge, Photoshop

■ PUBLICATIONS

Shutong Qi, Yinpeng Wang, Yongzhong Li, Xuan Wu, Qiang Ren, Yi Ren, *2D Electromagnetic Solver Based on Deep Learning Technique*, IEEE Journal of Multiscale and Multiphysics Computational Technique (Accepted)

Te-yen Wu, **Shutong Qi**, Junchi Chen, Mujie Shang, et al. *Fabriccio: Touchless Gestural Input on Interactive Fabrics*, ACM Conference on Human Factors in Computing Systems (CHI '20) (Accepted)

Jiang Nan, **Shutong Qi**, Luo Feixiang, Wang Jun, Wang Wenfeng, *ADS-B Message Authentication Using Features of Signal in Transition Regions*, IEEE International Conference on Signal, Information and Data Processing, Jul. 2019 (Accepted)

Zhiyao Tang, Liang Sun, Lu Cao, **Shutong Qi**, Yong Feng, *Reconsidering Design of Multi-Antenna NOMA Systems with Limited Feedback*, IEEE Transactions on Wireless Communications (Accepted)

Zhiyao Tang, Lu Cao, Liang Sun, **Shutong Qi**, Yong Feng, *Joint Power and Feedback Design for Multi-Antenna NOMA Systems with Limited Feedback*, IEEE International Conference on Communications, Jun. 2020 (Accepted)

Yipeng Wang, Yongzhong Li, **Shutong Qi**, Qiang Ren, *Electromagnetics scattering solver for metal nanostructures via deep learning*, Photonics & Electromagnetics Research Symposium, Oct. 2020 (Submit)

■ RESEARCH & LAB EXPERIENCES

Dartmouth College, Department of Computer Science 06/2019-09/2019

Research Assistant, Advised by Prof. Xingdong Yang

Project: Touchless Gestural Input on Interactive Fabrics

- Fabricated antenna on flexible materials, used Doppler Sensor to recognize and process received signal gestures
- Obtained the best and most stable signal strength by various connections (welding, adhesive, using liquid tin etc.)
- Simulated to explore how to place the transmitter and the receiver to obtain the best performance
- Designed and tested how different cloth affects the radiation performance of the antennas
- Collected and classified user gestures and achieved classification accuracy over 90%

Michigan State University, Nondestructive Evaluation (NDE) Laboratory 09/2019

Research Assistant, Advised by Prof. Yiming Deng

- Visited lab projects and helped with image processing to test adhesive properties
- Attempted image feature extraction methods such as Fourier transform and DCT, tsfresh package, and extracted transient features of signals using multiple moments

Beihang University, Institute of EMC Technology 03/2018-present

Research Assistant, Advised by Prof. Qiang Ren

- Assisted in the calculation of electromagnetic fields and data processing
- Learned the finite-difference frequency-domain (FDFD) algorithm and Method of Moment algorithm
- Simplified Maxwell FDFD program and combined it with a random graph generator to build datasets automatically
- Learned machine learning framework PyTorch

Colorado School of Mines, Human-Centered Robotics Lab 07/2018-09/2018

Research Assistant, Advised by Prof. Hao Zhang and his PhD students

- Programed to complete the collection of experimental data and data processing
- Supported the autonomous driving module and assisted in debugging the robot
- Studied concepts and applied research in Linux, Robot Operating System (ROS) and computer version

COMAP Mathematical Contest in Modeling (MCM) 01/2018

Problem A: Multi-hop HF Radio Propagation*, Meritorious Winner (Top 7%)*

- Simulated the reflection of sea water on electromagnetic waves
- Calculated the attenuation of electromagnetic wave during reflection
- Designed algorithms to process the data from simulation and analyzed in multiple ways

Harbin Institute of Technology, School of Electronics and Information Engineering 01/2018-03/2018

Project: School Violence & Verbal Bullying Recognition Algorithms Based on Joint Multi-model Classification

- Combined audio processing methods and video processing results to conduct behavior test
- Helped to design experiments to test the system

■ VOLUNTEER & SOCIAL ACTIVITIES

Volunteer, **Nursing Home** 09/2016-present

- Regularly visited retired elderlies and taught them to use smart phones and computers
- Cared about their life and health condition, and helped celebrate festivals and holidays

Volunteer, **The Beijing Marathon** 09/2017

- Prepared the speed way and maintained the order for the Beihang tiny marathon race
- Supported the contestants for the Beiing Women's Marathon during pre-race and race day

Team Leader, **Practice at Dadingzi Navigation and Hydroelectric Junction** 02/2017-08/2017

- Led the team and prepared for the schedule and aimed to know more about power stations
- Contacted the officials, organized the interview materials and assigned tasks to team members

■ SELECTED HONORS AND AWARDS

Meritorious Winner (Top 7%), COMAP Mathematical Contest in Modeling (MCM) 02/2018

Outstanding Scientific Competition Scholarship, Beihang University 10/2018

Outstanding Social Work Scholarship, Beihang University 10/2019

Excellent Student Leader, Beihang University 10/2017, 10/2018, 10/2019

First-Class Social Work Scholarship, Beihang University 10/2017, 10/2018

Second-Class Academic Excellence Scholarship, Beihang University 10/2018, 10/2019

3rd Prize, FLTRP Cup National English Competition for College Students 04/2018