

Zitong Lan

Website: zitonglan.github.io

Email: ZitongLan1@gmail.com

Mobile: +86-181-1512-6861

EDUCATION

-
- Honors college(Chien-Shiung Wu College), Southeast University** Nanjing, China
- *B.Eng. in Information Engineering* GPA: 92.4 (3.96/4) rank: 4/158 Sep. 2019 - Jun. 2023
- Courses:** Communication Systems, Digital Signal Processing, Digital and Analog Circuit, Very Large-Scale Integrated Circuit, Electromagnetic Fields and Waves
- English Ability:** Toefl: 104 (speaking: 23)

EXPERIENCE

-
- Institute of Software, Chinese Academy of Sciences** Beijing, China
- **Quantum Sensing: principle, design and application** Aug. 2022 - Present
- Research Intern*, advised by Prof. Jie Xiong(UMass Amherst) and Prof. Fusang Zhang
- Utilizing the capabilities of Rydberg Atoms as a full-band receivers to sense common RF signals, including 2.4GHz and 5GHz WiFi signal, 28GHz mmWave.
 - Outperform the sensing limits of traditional RF signal method by 10 times and provide fine-grained sensing information like sound recovery, liquid recognition, vibration sensing and so on.
- Institute of Computing Technology, Chinese Academy of Sciences** Beijing, China
- **BLEselect: IoT Device Selection via BLE AoA Estimation from Smart Glasses** May. 2021 - Present
- Research Intern*, advised by Prof. Tengxiang Zhang
- Proposed a natural, accurate, privacy-preserving IoT device selection method, which leverages the direction finding feature in BLE Protocol 5.0 and improves the HCI experience for device selection.(submitted to IMWUT, revised version (Major) being reviewed)
 - Designed a 5-element 2.4GHz antenna array that fits on the frame of smart glasses, developed a device selection pipeline that trains light-weight SVM models in real-time to enable precise selection(3m > 90% accuracy).
 - Implemented a prototype system (< 10mW) that supports three natural gestures of device selection, conducted extensive experiments and user studies (96.7% correctness).
- School of Information Science and Engineering, Southeast University** Nanjing, China
- **PCCR Based Wheelchair Control System** May. - Oct. 2020
- Research Intern*, advised by Prof. Chuan Zhang
- Designed the PCCR technology based functional wheelchair control system to help patients with severe disabilities to use eye movements to control wheelchair safely, effectively and naturally.
 - Analyzed the real driving response and proposed a unique interaction method for users to control the locomotion of wheelchair and make phone call through opening, closing eyes, and gazing at one direction.
 - Won the first place in the 2019-2020 IEEE CASS Student Design Competition

SELECTED PROJECTS

-
- **The Vision-Based Small Vehicle Development** Implemented a small autonomous vehicle with STM32 chip to control motion and Raspberry Pi to recognize color, number and path. Led the control logical and code in C. Tech: C, Embeded System, Python, Raspberry Pi, OpenCV, TensorFlow. (Jun. - Aug. 2021)
 - **Analog Circuit Coursework Projects** Designed several circuit project including light intensity indicator, triode amplifier circuit, audio amplifier, filtering circuit, and more. Tech: Circuit Implementation, Verilog, FPGA, Filter Design (Mar. - Jun. 2021)

PUBLICATIONS

-
- Conference: Tengxiang Zhang, **Zitong Lan**, Chenren Xu, Yanrong Li, Yiqiang Chen. BLEselect: Gestural IoT Device Selection via Bluetooth Angle of Arrival Estimation from Smart Glasses. To appear in IMWUT 2023.
 - Magazine: Zhenhao Ji, Yu Tian, Jifu Wang, Mingyuan Ding, Haoxin Wang, Yifan Chen, Jiahao Wen, **Zitong Lan**, Huiting Xu, Manqin Zhong et al. PCCR Based Wheelchair Control System. IEEE Circuits and Systems Magazine, Vol. 21 No. 3, the third-quarter 2021.

HONORS AND AWARDS

-
- The Special Award(1st) in the 2019-2020 IEEE CASS Student Design Competition Sep. 2020
 - The Southeast University President Scholarship Fall 2020
 - The Second Award in the Chinese Mathematics Competition Nov. 2020
 - Third Award in the Electronics Design Contest of Southeast University Jul. 2021
 - Second Award in the Physics Tournament of Southeast University May. 2021

SKILLS SUMMARY

-
- Languages C++, C, Matlab, Python, Verilog
 - Software Matlab, Gnu-Radio, Vivado