

# Qianren Li

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## RESEARCH INTERESTS

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Stochastic Optimization, System Implementation, and Reinforcement Learning.

## EDUCATION

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**Southern University of Science and Technology**, Shenzhen, China  
M.Sc. in Electronic Science and Technology (*Supervisor*: Rui Wang)

*Aug. 2022 — Jun. 2025*  
GPA: 3.50/4.00; Score: 89.35/100

**Southern University of Science and Technology**, Shenzhen, China  
B.Sc. in Communication Engineering

*Aug. 2018 — Jun. 2022*  
GPA: 3.75/4.00; Score: 89.19/100

## PROJECTS

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### ReinWiFi [\[repo\]](#)

*Leader, Developer*

Shenzhen, China  
*Jun. 2023 — May. 2024*

Extracting information from the media access control (MAC) layer in real time is either infeasible or hampers transmission efficiency. To address this issue, a reinforcement-learning-based framework for application-layer quality-of-service (QoS) optimization of WiFi networks was proposed. (*Master Thesis*)

- Developed a C-based WiFi MAC-layer parameter controller, a rust-based transmission subsystem, and a Python-based remote function call controller.
- Modeled the optimization problem into a partially observed Markov process and developed efficient reinforcement-learning-based optimization framework for application-layer QoS of WiFi system.
- Constructed a WiFi transmission and control testbed to evaluate the proposed algorithm.

### InertiEAR Implement [\[repo\]](#)

*Leader, Developer*

Shenzhen, China  
*Dec. 2022 — Jan. 2023*

Speakers in cell phones might induce vibration in embedded inertial measurement units (IMU); therefore, utilizing IMU data to infer victims' sensitive vocal information is possible. (*Course Project*)

- Developed a Python-based IMU data processing system, including automatic signal detection and extraction, upsampling, filtering, and spectrum conversion to efficiently and automatically collect datasets.
- Trained network to identify the information the IMU data stands for.

### Overleaf Workshop [\[repo\]](#)

*Developer, Maintainer*

Shenzhen, China  
*Sep. 2023 — Current*

Open Overleaf/ShareLaTeX projects in vscode, with full collaboration support.

- Function Developing, which includes compile log highlighting, document synchronization with remote, document outline, etc.

## SELECTED COURSES

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### Master's Courses

- Machine Learning and Artificial Intelligence (A-, *ranked 1 in class*)
- Wireless Network and Mobile Computing (A-)

### Bachelor's Courses

- Computer Composition Principle (A+)
- Linear Algebra (A)
- Information Theory and Coding (A)

## PATENT

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### Chinese Invention Patent

*Submitted*

- Menglong Zhang, Rui Wang, **Qianren Li**, Cheng ling, and Fangyi Meng, "Optimization methods, stability detection methods and electronic equipment of wireless local area networks", Application No.: 2023108576155, Honor Terminal Technology Co., Ltd., Southern University of Science and Technology, Application Date: 2023.07.12.
- Menglong Zhang, Rui Wang, **Qianren Li**, Cheng ling, and Fangyi Meng, "Wireless LAN QOS optimization method and electronic equipment", Application No.: 2023108622967, Honor Terminal Technology Co., Ltd., Southern University of Science and Technology, Application Date: 2023.07.12.

- Menglong Zhang, Rui Wang, Bojie Lv, Yuncong Hong, and **Qianren Li**, “Wireless LAN QOS optimization method and electronic equipment”, Application No.: 2023113092068, Honor Terminal Technology Co., Ltd., Southern University of Science and Technology, Application Date: 2023.07.12.

## AWARDS

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- Second Prize in the 17-th “Challenge Cup” Guangdong University Student Extracurricular Academic Science and Technology Works Competition
- Outstanding Presenter Award for the course “Advanced Electromagnetic Theory” (2022 ~ 2023)
- Southern University of Science and Technology Outstanding Student, Principal’s Special Award (2018 ~ 2019, 2020 ~ 2021)
- Second Prize in Fujian Provincial High School Mathematics Competition (2016)

## EXPERIENCE

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### Teaching Assistant, Southern University of Science and Technology

*Communication Systems Design*

*Wireless Communications*

Shenzhen, China

*Jan. 2023 — May. 2023*

*Sep. 2022 — Dec. 2023*

## SKILLS

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- **Programming:** Python, Matlab, C, Rust, Typescript, and Labview
- **Software:** Linux, Pytorch, Docker, Git, Overleaf, VSCode, Solidworks, AutoCAD, HFSS, ADS, and STM32CubeIDE
- **Mathematical Tools:** Convex Optimization, Markov Decision Process
- **English:** IELTS (Academic): 7.0 (Listening: 7.5, Reading: 8.5, Speaking: 6, Writing: 6, Test date: *Jan. 2024*)

## REFERENCES

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### Prof. Rui Wang

*Associate Professor, Department of Electronic and Electrical Engineering (EEE), Southern University of Science and Technology (SUSTech), Shenzhen, China*

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Scholar Profiles: Personal Page — Google Scholar — LinkedIn