Ruoshen Mo

莫若燊

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EDUCATION

Sichuan University — **Chengdu, China**
B.Eng. in Computer Science and Technology — *2020-2024*
GPA: 3.67/4.00
Weighted Average Mark: 87.43/100

RESEARCH EXPERIENCE

Lightweight V2V Network Enabled by Optical Wireless Communication — **Chengdu, China**
Research Intern — *November 2022 - August 2023*
Advisor: Prof. Yanbing Yang, Sichuan University and Prof. Zhengguo Sheng, University of Sussex

- We established a lightweight V2V network framework, integrating communication and sensing concurrently.
- We employed Raptor Codes in V2V networks to overcome severe packet loss for the first time, enhancing the overall performance of the framework.
- We innovated in proposing a status sensing algorithm to fast detect status changes of adjacent vehicles.
- We developed a prototype using low-cost COTS devices for conducting experiments and evaluations.

Attack on C-V2X with Unprotected Messages — **Riverside, U.S.A**
Research Intern — *July 2023 - February 2024*
Advisor: Prof. Zhaowei Tan, University of California, Riverside

- We discovered vulnerabilities in C-V2X protocols specified in 3GPP Rel.16–Some messages are unprotected and form the basis of communication.
- We have developed an attacker prototype that exploits these vulnerabilities and proposed several potential countermeasures.
- We plan to conduct further experiments based on SDR in future work.

TEACHING EXPERIENCE

Rapid Development of AIoT system based on HarmonyOS — **Chengdu, China**
Teaching Assistant, Sichuan University — *2023 Spring*

PUBLICATIONS

VehicleTalk: Lightweight V2V Network Enabled by Optical Wireless Communication and Sensing
*Yang Song,**Ruoshen Mo**,Pinpin Zhang,Chenchen Wang,Zhengguo Sheng,Yimao Sun,Yanbing Yang*
IEEE 99th Vehicular Technology Conference (VTC) 2024.

PATENTS

The Design of a Practical V2V Communication System based on OWC using COTS Devices — **China**
***Ruoshen Mo**,Yanbing Yang,Yang Song,Yanbo Wang,Jun Tao,Xinyu Lv,Jifei Zhu,Yimao Sun* — 2023
CN Patent Application CN116961748A, filed April 2023. **Patent Pending**

HONORS

- **The First Prize Scholarship of Sichuan University - 2021,2022,2023**
- **Excellence Students of Sichuan University - 2023**