

ZHUTIAN LIU

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EDUCATION

University of California, Riverside

PhD in Computer Science

2021 – Present

- Advisor: Prof. Zhaowei Tan
- Research interests: 5G Mobile Networking, IOT System and Network Security
- Selected courses: Software Security, Advanced Operating Systems, Network Security

Graduate Preparation Program

2019 – 2020

- Advisor: Prof. Zhiyun Qian
- Bachelor project: DoS attack on Local DNS Service on Windows

University of Electronic Science and Technology of China

2016 – 2020

Bachelor of Computer Science and Technology

- Minored in Mathematics
- Pacemaker Student award

PUBLICATIONS

M2HO: Mitigating the Adverse Effects of 5G Handovers on TCP

[Zhutian Liu](#) et al.

MobiCom '24

Poster: A Novel Adaptor Approach for O-RAN Interoperability

Sixu Tan, [Zhutian Liu](#), Zhaowei Tan

HotMobile '24

SELECTED PROJECTS

Improving TCP Performance in 5G Handover

2022 – 2024

- Measure TCP performance of mobile devices in 5G mmWave network and uncover causes of TCP deficiencies
- Design and implement user space solution to improve TCP performance using cross-layer information

Testing Robustness of O-RAN Interface

2024 – Present

- Identify states of O-RAN interfaces by using learning algorithm on live system
- Design and implement smart fuzzer for ASN.1 protocol leveraging interface context

Collaborating Project: Long Range Monitoring solution

2024

- Deploy LoRaWAN sensors and gateway to enable low power long range monitoring

Boosting TCP Performance in Lossy Network

2021 – 2022

- Design TCP throughput booster in lossy network using optimistic ACK
- Implemented the solution and evaluated its performance in internet

Bachelor Project: Testing DNS Service in Windows 7 against DoS Attack 2020

- Run port exhausting DoS attack from local process on Windows
- Uncovered behavior of Windows DNS service in face of DoS attack

Bachelor Project: Exploit based on Ubuntu CVE 2020

- Created exploit for privilege escalation bug and validated its severity

INTERN EXPERIENCE

Tencent, Chengdu Aug 2018 – Oct 2018
 Student innovative AI group

- Co-designed strategy for StarCraft AI competition
- Assisted in ML model training
- Developed framework for model and game interaction

TECHNICAL SKILLS

Language C/C++, Python, Go, Assembly, JavaScript
Tools Linux, Docker, IDA, srsRAN

TEACHING EXPERIENCE

University of California, Riverside 2022 - 2024

- Mentor in Undergraduate Research to PhD ("UR2PhD") (F24)
- T.A. for Mobile Wireless Networks (W22-23), Computer Networks (F24)

EXTRACURRICULAR ACTIVITIES

Bitman Lab, UESTC Nov 2016 – Mar 2019
 Student research assistant

- “[Matu](#)” code learning platform development (C++)