Zhiyu Zhang (Jason)

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github.com/QGrain

EDUCATION

Huazhong University of Science and Technology *Sep 2017 - Jun 2021*
Bachelor Electronic Information and Communication

COMPETITION AWARDS

- Second/Third Prize of American College Students Mathematical Modeling Competition *Feb 2018, 2019*
- First Prize of Mathematical Modeling Competition of HUST (2/128) *Dec 2018*
- Third Prize of Chinese College Students Mathematics Model Competition *May 2018*

RESEARCH EXPERIENCE

Cyber Security: A System of Intrusion Detection and Prevention ★★★★★ *Sep 2019 - Present*
Technical Backbone , Supervised by Associate Professor Guohui Zhong *Dian team, HUST, Wuhan*

- **Project introduction**: A national level project aiming at Intrusion Detection and Prevention, which covers the techniques of Reverse Engineering, DPDK, ATT&CK, Network Traffic Detection and Deep Learning.
- **My work**: Reverse wannacry and figure out its execution principles ; Use convolutional neural network to process binary images of traffic of DDoS, nmap and eternal-blue and detection them under framework of Snort and Security Onion ; Desgin and implement a fast recoverable cyber range for the project. (Paper has been submitted to **IEEE ICTC 2020**)

An Interactive Online Programming Platform for Learning Computer Networking Protocols ★★★☆☆ *Jan 2020 - Feb 2020*
Backbone , Supervised by Associate Professor Xiaojun Hei *HUST, Wuhan*

- **Project introduction**: Develop an online NS-3 programming web platform with **ns-3** tutorial pages, which covers the techniques of vue, node.js, NS-3, Docker Cloud and Queue Mechanism.
- **My work**: Design the workflow of our platform ; Deploy and evaluate ns-3 back-end ; Construct experiments to find the suitable container number which owns the highest performance. (Paper has been submitted to **SIMUtools 2020**)

UCB Summer Research: Inverse Problem in Structures ★★★★☆ *Aug 2019 - Sep 2019*
Group Member , Supervised by Professor Shaofan Li *UC Berkeley, CA*

- **Project introduction**: Inverse problem in structure is to rebuild the situation of a damaged structure, which covers the techniques of Finite Element Analysis and Deep Neural Network.
- **My work**: Adopt FEA method to simulate the physical principles of the cantilever ; Use tensorflow to build deep neural network and make prediction of the initiial status of cantilever ; Make temperature prediction of bridge based on DSP and DL methods. (Paper is in preparing for **Applied Science**)

NGINX Reverse Proxy for Secure File Sharing Service ★★★☆☆ *Jun 2018 - Dec 2018*
Backbone , supervised by Associate Professor Guohui Zhong *Dian team, HUST, Wuhan*

- **Project introduction**: Develop windows network driver and deploy NGINX reverse proxy server to provide authentication management for file sharing service for Huawei company, which covers the techniques of WDK, Linux Kernel, TCP/IP. Team received a grant of 26,000 RMB to continue the project.
- **My work**: Develop windows driver according Microsoft WDK API ; Parse Samba 2 protocol to dump the transferred files ; Explore the methods of Access Control ; Improve performance by setting up LVS load balancing servers.

MISCELLANEOUS

- **Coding Skills:** C/C++, MATLAB, Python, Linux Shell, Assembly, Server Operation and Maintenance, Git, LaTeX
- **Languages:** English (TOEFL 93, IELTS 6.5-Expired, CET-6/CET-4)
- **Personal Website:** https://zhiyu.netlify.com
- **Interests:** Guitar FingerStlye, Piano, Basketball, Swimming