



# Peiran Wang (王沛然)

Grade: Third(3rd) Year of Bachelor Degree | Gender: Male | Location: China

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## Education Experiences

09/2018 – Present      **Sichuan University(985/211)** <http://scu.edu.cn/>, Chengdu, China  
School of Cyber Science and Engineering (CSE) Cyberspace security Major  
**Cyberspace security Excellent Talent Class** (Special Selected Class)  
GPA: **3.89/4.00**    Compulsory Score: **90.72 (Rank 2/172 in my major in the first 5 semesters)**

## Awards and Honors

- ❖ 2018-2019 Annual **National Scholarship** (for top 2% students)
- ❖ 2018-2019 Annual Sichuan University First Class Scholarship
- ❖ 2019-2020 Annual Sichuan University Third Class Scholarship
- ❖ 2020 Third prize Annual National Mathematical Modeling Competition in Sichuan
- ❖ 2019 Third prize Annual National Mathematics Competition in Sichuan

## Research Experiences

11/2020 - 05/2021      Prof. **Beibei Li's** Group (<https://li-beibei.github.io/>), Sichuan University  
Byzantine Clients Detection in Federated Learning (Proceeding Version)  
✧ Proposed a method to detect and prevent Byzantine nodes in Federated Learning;  
✧ Paper submitted to **IEEE ISCC 2021(CCF-C) Second author(Supervisor first author)**;

11/2020 - 04/2021      Prof. **Beibei Li's** Group (<https://li-beibei.github.io/>), Sichuan University  
A Framework for Solving non-IID Problems in Federated Learning  
✧ Proposed A solution to the problem of non-IID data in Federated Learning;  
✧ Paper submitted to **IEEE GlobeCom2021(CCF-C)**;

11/2020 - Present      Prof. **Beibei Li's** Group (<https://li-beibei.github.io/>), Sichuan University  
Byzantine Clients Detection in Federated Learning (Extensive version on proceeding version)  
✧ Proposed a method to detect and prevent Byzantine nodes in Federated Learning;  
✧ Paper prepared to submit to **IEEE TIFS(CCF-A) Second author(Supervisor first author)**;

04/2020 - 02/2021      Prof. **Cheng Huang's** Group (<https://chenghuang.org/>), Sichuan University  
Javascript Cryptojacking Detection in Web Browser  
✧ Proposed a static detection method to detect malicious mining JavaScript code in browser;  
✧ Paper submitted to **IEEE TrustCom2021(CCF-C) First author**;

## Program Experiences

03/2021 - Present      Prof. **Beibei Li's** Group (<https://li-beibei.github.io/>), Sichuan University  
IoT Privacy-Enhancing Platform  
✧ Developed a privacy protection platform to deal with the leakage of user privacy and IOT environment privacy;  
✧ As the team leader, he led the research and development of the project team, which improved his project management organization ability and presentation ability;  
✧ Prepared to participate in the 2021 information security competition national competition / China University student computer design competition / "Internet+" Competition;

11/2019 - 2020/11      Prof. **Cheng Huang's** Group (<https://chenghuang.org/>), Sichuan University

	Domestic system terminal situation awareness platform based on machine learning
	✧ Developed an operating system attack detection system based on machine learning;
	✧ As the team leader, he led the research and development of the project team, which improved the project management organization ability and presentation ability;
	✧ <b>Top 100 elites Award in 100 Elites Competition 2020;</b>
11/2020 - 05/2021	Prof. <b>Xinjian Xu</b> 's Group, School of literature and journalism, Sichuan University Reconstruction of cultural memory - An Anthropological Study of Li Jieren's "Dahe Trilogy"
	✧ Analyze project usage statistics in the project;
	✧ <b>Rated as National College Students' Innovative Entrepreneurial Training Plan Program</b> of Sichuan University in 2021;
11/2020 - 05/2021	Prof. <b>Qilin Cao</b> 's Group, School of Business&School of Mathematics, Sichuan University Research on the frequency of automatic rebalancing of intelligent investment advisers-Based on the analysis of Shanghai and Shenzhen data and user portraits
	✧ Studied the rebalancing frequency of intelligent investment advisers, and proposes a method to calculate the rebalancing frequency of intelligent investment advisers;
	✧ As a team member, he was responsible for the construction and implementation of artificial intelligence model;

#### Publication

1. "Detection of malicious mining behavior in browser JavaScript" related paper (Submitted to **IEEE TrustCom 2021 CCF-C**)
2. "Byzantine defense in Federal Learning" related paper (Submitted to **IEEE ISCC 2021 CCF-C**)
3. "Solving the problem of Non-IID in Federated Learning" related paper (Submitted to **IEEE GlobeCom 2021 CCF-C**)
4. "Byzantine defense in Federal Learning" related paper(Ready to submit to **IEEE TIFS CCF-A, top journal of security**)

#### Research Interest

- ❖ AI security:Federated Learning Security/Non-IID in Federated Learning/Inference Attack in AI/Poison Attack in AI
- ❖ Data-driven security:Malicious Code Analysis/Cyber Crime/Underground Economy

#### Language Skills

01/2019	CET-4	Listening:228   Reading:180   Writing&Translation:191	<b>Total:599</b>
09/2019	CET-6	Listening:208   Reading:202   Writing&Translation:130	<b>Total:540</b>
01/2021	IELTS	Reading: 8.5   Listening: 8.5   Saying: 5.5   Writing: 6.5	<b>Total: 7.5</b>

#### Grasped Skills

**Research Skills:** Deep Learning/Program Management(git)/Database Deployment(mysql)/Data Mining/Data Analysis

**Preferred Programming Languages:** C/Python/JavaScript/HTML/Java/R/Assembly Language/PHP/Matlab

**Professional Skills:** SQL Injection/CSRF Attack/XSS Attack/Traffic Analysis/Reverse Engineering/Pwn/Malicious Code Analysis

#### Biography

After entering Sichuan University, he was selected to enter the **Cyberspace security Excellent Talent Class**. In the first year, he won the **national scholarship** and the **annual first-class scholarship of Sichuan University**. In the daily courses, he answered the teacher's questions, and participated in classroom interaction actively. At the same time, he usually served as team leaders of the course projects in professional courses, exercising his project management ability and team cooperation ability. In the process of project report, he always took the responsibility of reporting on his own initiative, which greatly improved his ability of expression.

He has participated in the research group of teachers and done some research yet. In Prof. **Cheng Huang**'s research group, he has done some research about **malicious code detection** (one paper was completed and submitted to a academic conference). The research on **Federal Learning** was conducted in the research group of **Beibei Li** (three papers were completed). During his research experiences, he has cultivated his own research skills and habits, and enhanced the academic reading ability.