Peiran Wang (王沛然)

Grade: Third(3rd) Year of Bachelor Degree | Gender: Male | Location: Chengdu, Sichuan Province, 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:**3.90/4.00** 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
2020-2020	Third prize Annual National Mathematical Modeling Competition in Sichuan
2019-2019	Third prize Annual National Mathematics Competition in Sichuan
2019-2020	Elite Top 100 Competition Elite Top 100 Award
2020-2021	**National-Level** College Students' Innovative Entrepreneurial Training Plan Program Participants
2020-2021	**Provincial -Level** College Students' Innovative Entrepreneurial Training Plan Program Participants
2021-2021	Internet + competition school-level second prize
2021-2021	Internet + competition school-level golden prize

Research Experiences

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 accepted by **IEEE GlobeCom2021(CCF-C)**;
11/2020 - 06/2021	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 accepted by **ISCC 2021 (CCF-C) Second author(Supervisor first author)**;
	✧ Extensive paper is submit to **ACM TIFS(CCF-A) First student 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, transferred to IEEE CSE**;

Program Experiences

03/2021 - 06/2021	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;
- ✧ **Top 100 elites Award in 100 Elites Competition 2020**;

11/2020 - 06/2021	Prof. **Xinjian Xu**'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;
- ✧ **Rated as National-Level College Students' Innovative Entrepreneurial Training Plan Program** of Sichuan University in 2021;

11/2020 - 06/2021	Prof. **Qilin Cao**'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;
- ✧ **Rated as Provincial-Level College Students' Innovative Entrepreneurial Training Plan Program** of Sichuan University in 2021;

11/2020 - 06/2021	Prof. **Xuefeng Hu**'s Group, omaterial Engineering Research Center, Sichuan University;

soft-pain:Leader in the field of pain relief with flexible electronic materials

- ✧ Design a flexible electronic material device which can adaptively eliminate user's pain;
- ✧ As a team member, responsible for the design and construction of federal learning model;
- ✧ **Rated as Provincial-Level College Students' Innovative Entrepreneurial Training Plan Program** of Sichuan University in 2021;
- ✧ Internet + competition school-level second prize;

11/2020 - 06/2021	**Wei Yin&Dan Xiao**, West China School of Stomatology, Sichuan University

MothSeeker:Your intimate mothproof housekeeper

- ✧ Designs an equipment and a program which can automatically find cavities;
- ✧ As a team member, responsible for the development of wechat applet;
- ✧ **Rated as National-Level College Students' Innovative Entrepreneurial Training Plan Program** of Sichuan University in 2021;
- ✧ Internet + competition school-level second prize;

06/2020 - 06/2021	Enterprise training, Sichuan University;

Baselinecheck Platform

- ✧ A platform is developed to scan the host for baseline configuration non-compliance;
- ✧ As the team leader, manage project development and develop project interfaces;
- ✧ 2021 年 Course design project of School of Cyberspace Security, Sichuan University, with a score of **95(the highest score among all the students)**;

Publication

1. MineDetector: JavaScript Browser-side Cryptomining Detection using Static Methods (First author, accepted by **IEEE CSE 2021**)

2. FedVANET: Efficient Federated Learning with Non-IID Data for Vehicular Ad Hoc Networks (Accepted by **IEEE GlobeCom 2021 CCF-C***)*

3. FLPhish: Reputation-Based Phishing Byzantine Defense in Ensemble Federated Learning (Second author, supervisor is first author (Accepted by **IEEE ISCC CCF-C**)

4. Defending Against Byzantine Attacks in Ensemble Federated Learning: A Bayesian Reputation-based Phishing Approach (Submitted to **IEEE TIFS CCF-A**)

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/Social Computing

Language Skills

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

Grasped Skills

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

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

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

Biography

After entering Sichuan University, he was selected as the member of **Cyberspace Security excellence class of Sichuan University**. In the first academic year, he won the **national scholarship** and the **annual first-class scholarship of Sichuan University**. In the usual course, he actively answered the teacher's questions, participated in classroom interaction. In the first five semesters, his compulsory grade ranked **2/172**, with an average score of **90.72** and GPA of **3.89**. He performs well in English, with IELTS score of **7.5**, and can communicate with native speakers fluently. He also has rich project experiences, including a **national-level** undergraduate innovation and entrepreneurship project in 2020-2021 and a **provincial-level** undergraduate innovation and entrepreneurship project. He has many research experiences and began to participate in scientific research in his sophomore year. **One EI conference paper** has been received and **three papers are being submitted**. He is full of enthusiasm for network security research.