# photo2Peiran 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**;

08/2021 - present Prof. **Yinzhi Cao**’s Group (<http://yinzhicao.org/>), Johns Hopkins 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**;

09/2021 - present Microsoft Research Asia

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, material 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 annual 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
* System:System Security/Machine Learning System

***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.