

Xiao-Lei Liu

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EDUCATION

University of Electronic Science and Technology of China, Chengdu, Sichuan, P.R.China

My research areas are in machine learning, adversarial example and swarm intelligence optimization algorithm. In addition, I have extensive engineering experience in cybersecurity. More specifically, my current research interests are: **The Intersection of Cybersecurity and Artificial Intelligence**, and **Robustness of Artificial Intelligence Algorithm**.

- Ph.D. in Software Engineering Sep 2014 – Present
 - Adviser: Prof. Xiao-Song Zhang & Prof. Qing-Xin Zhu
 - Focus: Robustness of Artificial Intelligence Algorithm, Applied Machine Learning, Swarm Intelligence Optimization Algorithm.
- B.S. in Software Engineering Sep 2010 – Jun 2014
 - Adviser: Prof. Xiao-Song Zhang
 - Focus: Cybersecurity.
 - Graduated with College Honors.

AWARDS & SCHOLARSHIPS

- Tang Li Xin Scholarship Oct 2017
Awarded to top 0.3% graduates in UESTC.
- Network Security Scholarship Nov 2016
Awarded to 100 graduates in China.
- First Prize Scholarship for Ph.D. Students Oct 2016
The only one in School of Information and Software Engineering.
- Excellent Graduate Student Sep 2016
For outstanding contributions last year in UESTC.
- Outstanding Undergraduate Student Jun 2014
Awarded to top 1% undergraduates.
- National College Students' Information Security Competition, 2nd Prize Jul 2013
All work is done by myself, including hardware design, program implementation and paper writing.
- National College Students' Information Security Competition, 2nd Prize Jul 2012

RESEARCH PROJECTS

- **Research on Sensitive Data Protection Mechanism Facing MapReduce Process.** 2016 – 2017
Sichuan Science and Technology Innovation Seedling Fund(Key projects). PI.
- **Anti-forensic Remote *** Technology.** 2016 – 2019
The National Key Research and Development Program of China.(2016QY04W0802). Main Researcher.
- **Research on *** Key Technologies of Network Threats.** 2016 – 2019
The National Key Research and Development Program of China.(2016QY04W0802). Main Researcher.
- **Vulnerability *** Service Platform.** 2012 – 2014
The National High Technology Research and Development Program of China.(2012AA012901). Main Researcher.
- **Research of Targeted Complex Attack Network Model and Behavior Analysis.** 2015 – 2019
General Program of National Natural Science Foundation of China.(61572115). Main Researcher.
- **Key Technologies in Data Security Ecosystem Supporting Big Data Applications.** 2016 – 2018
Sichuan Province Science and Technology Application Basic Project. Main Researcher.
- ***** Command System for Mobile Terminal Software Analysis Platform (2).** 2015 – 2016
Sichuan Province Science and Technology Support Program Project. Main Researcher.
- **Research and Development of Anti-phishing Fraud System on E-commerce Website.** 2015 – 2017
Sichuan Province Science and Technology Support Program Project. Main Researcher.
- **Mobile Network *** System.** 2015 – 2016
Sichuan Province Science and Technology Support Program Project. Main Researcher.
- **Fast Flux Botnet Detection.** 2015 – 2016
Cooperation Project with Southwest China Research Institute of Electronic Equipment. Main Researcher.
- **Design and Research of New Generation High Performance *** Supporting Big Data Service in Power Grid.** 2015 – 2017
State Grid Sichuan Electric Power Company cooperation projects. Main Researcher.
- **Anonymous Network Traffic Identification.** 2016 – 2017
Cooperation Project with Southwest China Research Institute of Electronic Equipment. Main Researcher.
- ***** Command System for Mobile Terminal Software Analysis Platform (1).** 2014 – 2015
Sichuan Province Science and Technology Support Program Project. Main Researcher.

PUBLICATIONS

JOURNALS

- **The Deployment Optimization of Wireless Sensor Network Based on Parallelized Cuckoo Search Algorithm.**
Xiao-Lei Liu, Xiao-Song Zhang, Hu Teng, Qing-Xin Zhu. *Application Research of Computers*, 2017.
- **The Deployment Optimization of Wireless Sensor Network Base on Parallelized Fireworks Algorithm.**
Xiao-Lei Liu, Yi-Qi Jiang, Xiao-Song Zhang, Qing-Xin Zhu. *Application Research of Computers*, 2016.
- **Modified t-distribution Evolutionary Algorithm for Dynamic Deployment of Wireless Sensor Networks.**
Xiao-Lei Liu, Xiao-Song Zhang, Yi-Qi Jiang, Qing-Xin Zhu. *IEICE TRANSACTIONS on Information and Systems*, 2016.

CONFERENCES

- **Enhanced Fireworks Algorithm for Dynamic Deployment of Wireless Sensor Networks.**
Xiao-Lei Liu, Xiao-Song Zhang, Yi-Qi Jiang, Qing-Xin Zhu. *International Conference on Frontiers of Sensors Technologies(ICFST)*, 2017.
- **An Improvement of Chinese Text Hierarchical Clustering Algorithm.**
Xiao-Lei Liu, Zhou-Guo Chen, Bin Zhou, Qing-Xin Zhu, Ting Chen. *International Conference on Computer, Intelligent and Education Technology(CICET)*, 2015.

PATENTS

- A ROP Attack Stack Overflow Protection Method Based on Simulated Stack and Thread Injection(CN107229862A-201710417305).
Xiao-Lei Liu, Xiao-Song Zhang, Wei-Na Niu et al.
- A Character Search Method Based on Sunday Algorithm (CN107220333A-201710375615).
Xiao-Lei Liu, Xiao-Song Zhang, Wei-Na Niu et al.
- A Verification Method for Embedding and Extracting Watermark of Numerical Relational Database (CN104866735B-201510263330).
Xiao-Lei Liu, Xiao-Song Zhang, Tang-Bi Jiang et al.
- A Method and Apparatus for Intrusion Detection Based on Browser Label Attributes (CN104301314A-201410515151).
Xiao-Song Zhang, Xiao-Lei Liu, Wei-Na Niu et al.
- A Method and Apparatus for Intrusion Detection Based on Browser Script Behavior (CN104268474A-201410516038).
Xiao-Song Zhang, Xiao-Lei Liu, Wei-Na Niu et al.
- A Method of Predicting Heavy Rainfall and Flood Disaster (CN105046089A-201510494198).
Xiao-Song Zhang, Hong-Wei Zhang, Wei-Na Niu, Xiao-Lei Liu et al.
- A Billing System and Method Based on a Sovereign Block Chain (CN107103459A-201710287867).
Xiao-Song Zhang, Qi Xia, Zhen-Hua Xiao, Xiao-Lei Liu et al.
- A Method of Freight Logistics Application Based on Blockchain (CN107122937A-201710288608).
Xiao-Song Zhang, Qi Xia, Zhen-Hua Xiao, Xiao-Lei Liu et al.
- A Dynamic Operation Method of Data Blocks Based on Convergent Encryption (CN107094075A-201710544167).
Xiao-Song Zhang, Ke Huang, Wei-Na Niu, Xiao-Lei Liu et al.
- A Security Authentication Method Based on Blockchain for Multiuser Identity of Users (CN07147652A-201710352678).
Ke Huang, Xiao-Song Zhang, Qi Xia, Rui-Dong Chen, Xiao-Lei Liu et al.
- A Kind of UAV Block Flow Chain Management and Control Strategy Against Quantum Computation Attacks (CN107094148A-201710322255).
Ke Huang, Xiao-Song Zhang, Qi Xia, Rui-Dong Chen, Xiao-Lei Liu et al.
- A Method of Recording and Clearing the Roaming Charges Based on Blockchain (CN107027111A-201710351966).
Ke Huang, Xiao-Song Zhang, Qi Xia, Rui-Dong Chen, Xiao-Lei Liu et al.

- Supply Chain Financial Blockchain Application Method Based on Sovereign Blockchain (CN107194801A-201710353313).
Xiao-Song Zhang, Zhen-Hua Xiao, Qi Xia, Ke Huang, Rui-Dong Chen, **Xiao-Lei Liu** et al.
- Supply Chain Management Based on Sovereign Blockchain (CN107103480A-201710352264).
Xiao-Song Zhang, Zhen-Hua Xiao, Qi Xia, Ke Huang, Rui-Dong Chen, **Xiao-Lei Liu** et al.
- A Method of Digital Rights Management Based on Blockchain Technology (CN107171785A-201710352676).
Xiao-Song Zhang, Qi Xia, Yong-Feng Chen, Ke Huang, Rui-Dong Chen, **Xiao-Lei Liu** et al.

ACTIVITIES

Mr.Ray Co.,Ltd. CTO

Mr.Ray is the first batch of big data security infrastructure manufacturers and service providers in China. It serves directly to the government data support platform, which is prepared by the National Information Center. Dec 2015 – Mar 2017

- National security perspective on data resources.
- Valued at more than 1 billion yuan.

QingShuiHePan - UESTC Official Forum

The third-party iOS client for UESTC Official Forum 2017 – Present

- Complete the app as an independent developer.
- The best score is the App Store social payment category top three applications.
- Was selected as the best client for UESTC Official Forum.

CAMPUS ACTIVITIES

Tencent Innovation Club

- President 2012 – 2013
 - Team building, product operations and technical support.

LANGUAGES

- English: CET4, CET6.

SKILLS

Java, Python, Swift, PHP, JavaScript, CSS, Shell Scripts, MATLAB, L^AT_EX, Adobe Photoshop, Microsoft Word, Microsoft Excel, Microsoft PowerPoint.

[CV compiled on 2018-01-12]