Song Li

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EDUCATION

Johns Hopkins University Maryland, USA

Ph.D. in Computer Science and Engineering Aug. 2018-PRESENT

Lehigh University Pennsylvania, USA

Ph.D. in Computer Science and Engineering; GPA: 4.0/4.0 Aug. 2017-Aug. 2018

Lehigh University Pennsylvania, USA

Master in Computer Science and Engineering; GPA: 3.9/4.0 Aug. 2015-May. 2017

Beijing Institute of Technology Beijing, China

Bachelor of Software Engineering: GPA: 3.4/4.0 Aug. 2011-May. 2015

Experience

A Large-scale Measurement Study of Browser Fingerprint

Software Engineer & Web Privacy Research Assistant

Software Engineer & Web Privacy Research Assistant

Software Engineer & Web Privacy Research Assistant

Johns Hopkins University, USA

Jun. 2017-Oct. 2018

o Description: Made a large-scale measurement of browser fingerprint, including popular features introduced by multiple research papers. Collected more than 15,500,788 visiting records from 226 countries, 960,853 pieces of dynamics information belonging to 661,827 browser instances. We analyzed the robustness, uniqueness of each feature and also extracted the dynamics of browser fingerprints and the reason for fingerprints changing.

• Github Repository: https://github.com/Song-Li/dynamic_fingerprinting

Deterministic Browser

Lehigh University, USA

Oct. 2016-May. 2017

o Description: Built the first execution time deterministic browser, DeterFox (deterfox.com), based on Firefox open-source project to defend against timing channel attacks. The paper has been accepted by The ACM Conference on Computer and Communications Security, 2017

- o Group: SECLAB in Lehigh University, mentored by Prof. Yinzhi Cao
- Github Repository: https://github.com/nkdxczh/gecko-dev/tree/deterfox

Cross-browser Fingerprinting

Lehigh University, USA

Feb. 2016-Jul. 2016

o Description: Implemented the first cross-browser fingerprinting framework that relies on novel hardware and OS level features, such as graphics cards and installed writing scripts. The project paper has been accepted by Network & Distributed System Security Symposium, 2017

- o Group: SECLAB in Lehigh University, mentored by Prof. Yinzhi Cao
- Github Repository: https://github.com/Song-Li/cross_browser

Freelancer Taobao, China Programmer Aug. 2015-Feb. 2016

- o Description: Developed more than 20 projects, such as physical simulation of water flow, parallel version of PageRank, the ant colony optimization algorithm and the genetic optimization algorithm for train station management and Tabu Search algorithm for logistics activities
- o Programming Languages: C++, Python, JavaScript, R and MATLAB

Online Contribution Management System

IBM, China

J2EE Developer Intern in IBM

Jul. 2014-Dec. 2014

- o Description: Implemented some new features and fixed some bugs in a J2EE based management tool used by the IBM CICS Lv3 team
- o Implementation: Java, Spring2 and Hibernate

ACM-ICPC Competition

BIT, China

Team member Feb. 2012-Oct. 2013

- o Description: Trained for ACM-ICPC competition. Worked on all kinds of algorithms and programming skills
- Programming Languages: C and C++

Programming Skills

- C, C++: : Many kinds of projects and algorithms
- Python, JavaScript: : Done some related projects such as web server, machine learning
- Web & Software Security: Trained for security and privacy. Done researches for web privacy
- Algorithm: : Well trained for all kinds of basic algorithms

PUBLICATIONS

1) Deterministic Browser,

Yinzhi Cao, Zhanhao Chen, Song Li, Shujiang Wu,

in the Proceeding of ACM Conference on Computer and Communications Security (CCS), 2017

2) (Cross-)Browser Fingerprinting via OS and Hardware Level Features,

Yinzhi Cao, **Song Li** and Erik Wijmans,

in the Proceeding of the Annual Network & Distributed System Security Symposium (NDSS), 2017

PATENT

Improved Solving Method for Quasi-identifier in K-anonymization, Fusheng Jin, XIaowei Hu, Zhen Yan, Song Li, Xiangyu Han, CN104318167A, SIPO (The State Intellectul Property Office of The People's Republic of China), 2015

Professional Activities

Research Mentoring

- Xueqi Ren: Undergraduate Student, Browser fingerprinting project, 10/2017-now
- Ningfei Wang: Graduate Student, Browser fingerprinting project, 10/2017-now
- Olivia Orrell-Jones: Undergraduate Student,, Browser fingerprinting project, 05/2017-08/2017
- Erik Wijmans: Undergraduate Student, (Cross-)Browser fingerprinting project, 05/2016-08/2016

External Reviewer for

• WWW: International World Wide Web Conference, Security and Privacy Track, 2018