

Yaoqi JIA

CONTACT INFORMATION

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Department of Computer Science
National University of Singapore

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RESEARCH INTERESTS

Distributed System Security; Network Security; Web Security & Privacy.
My present focus is on decentralizing the web in a secure/scalable/incentivized/privacy-preserving manner. During my Ph.D., I have proposed solutions to secure the web infrastructure, i.e., addressing privacy/consensus issues in web overlays using cryptographic/hardware primitives and discovering new attack vectors in web browsers, respectively.

SKILLS

C/C++, Java, Python, JavaScript and PHP. Using Vim on Linux & Mac OS.

EDUCATION

National University of Singapore, Singapore

Ph.D. Candidate, Computer Science, August 2012 - July 2017

- CAP: 4.59 / 5.0 (Highest Distinction)
- Advisor: [Zhenkai Liang](#) & [Prateek Saxena](#)

Huazhong University of Science & Technology, China

B.E., Computer Science, August 2008 - July 2012

- Grade: 90 / 100 (Rank: 1 / 93)

PROFESSIONAL EXPERIENCE

Blockchain Architect & Co-founder
Zilliqa Research, Singapore.

October, 2017 - Present

Research Fellow
National University of Singapore, Singapore.

August, 2017 - October, 2017

Research Assistant
National University of Singapore, Singapore.

August, 2016 - July, 2017

Research Internship
Anquan Capital, Singapore.

June, 2016 - September, 2016

PUBLICATIONS: PEER-REVIEWED CONFERENCES & JOURNALS

The “Web/Local” Boundary Is Fuzzy: A Security Study of Chrome’s Process-based Sandboxing
Yaoqi Jia, Zheng Leong Chua, Hong Hu, Shuo Chen, Prateek Saxena and Zhenkai Liang.
In the 23rd ACM Conference on Computer and Communications Security (CCS 2016)

OBLIVP2P: An Oblivious Peer-to-Peer Content Sharing System
Yaoqi Jia, Tarik Moataz, Shruti Tople and Prateek Saxena.
In the 25th USENIX Security Symposium (Usenix Security 2016)

Anonymity in Peer-assisted CDNs: Inference Attacks and Mitigation
Yaoqi Jia, Guangdong Bai, Prateek Saxena and Zhenkai Liang.
In the 16th Privacy Enhancing Technologies Symposium (PETS 2016)

Toward Exposing Timing-based Probing Attacks in Web Applications
Jian Mao, Yue Chen, Futian Shi, **Yaoqi Jia** and Zhenkai Liang.
In the 11th International Conference on Wireless Algorithms, Systems, & Applications (WASA 2016)

Man-In-The-Browser-Cache: Persisting HTTPS Attacks via Browser Cache Poisoning
Yaoqi Jia, Yue Chen, Xinshu Dong, Prateek Saxena, Jian Mao, Zhenkai Liang.
In Journal of Computers & Security, 2015

Web-to-Application Injection Attacks on Android: Characterization and Detection
Behnaz Hassanshahi, **Yaoqi Jia**, Roland Yap, Prateek Saxena and Zhenkai Liang.
In the 20th European Symposium on Research in Computer Security (ESORICS 2015)

I Know Where You've Been: Geo-Inference Attacks via the Browser Cache (**Best Paper Award**)
Yaoqi Jia, Xinshu Dong, Zhenkai Liang, Prateek Saxena.
In Journal of IEEE Internet Computing, 2015
In Web 2.0 Security and Privacy 2014(W2SP 2014)

You Can't Be Me: Enabling Trusted Paths & User Sub-Origins in Web Browsers
Enrico Budianto, **Yaoqi Jia**, Xinshu Dong, Prateek Saxena and Zhenkai Liang.
In the 17th International Symposium on Research in Attacks, Intrusions and Defenses(RAID 2014)

DroidVault: A Trusted Data Vault for Android Devices (**Best Paper Award**)
Xiaolei Li, Hong Hu, Guangdong Bai, **Yaoqi Jia**, Zhenkai Liang and Prateek Saxena.
In the 19th International Conference on Engineering of Complex Computer Systems (ICECCS 2014)

TECHNICAL
REPORTS

Robust Synchronous P2P Primitives Using SGX Enclaves
Yaoqi Jia, Shruti Tople, Tarik Moataz, Deli Gong, Prateek Saxena and Zhenkai Liang.
In ePrint Archive.

Should Origins Share Processes in Browsers? The Dangers and Challenges Ahead
Yaoqi Jia, Zheng Leong Chua, Hong Hu, Shuo Chen, Prateek Saxena, and Zhenkai Liang.
School of Computing, National University of Singapore.

PUBLICATIONS:
POSTERS

Persisting HTTPS Attacks via Browser Cache Poisoning
Yaoqi Jia, Yue Chen, Xinshu Dong, Prateek Saxena, Jian Mao and Zhenkai Liang.
In the 36th IEEE Symposium on Security and Privacy(S&P 2015)

An Efficient Solution for Detecting UI-Mimicking Android Applications
Jian Mao, Hanjun Ma, **Yaoqi Jia**, Zhenkai Liang, Xuxian Jiang.
In the 36th IEEE Symposium on Security and Privacy(S&P 2016)

Detecting Browser-Based Probing Attacks via Behavior Analysis
Yue Chen, **Yaoqi Jia**, Jian Mao and Zhenkai Liang.
In the 2015 Network and Distributed System Security Symposium(NDSS 2015)

Geo-Inference Attacks via the Browser Cache
Yaoqi Jia, Xinshu Dong, Zhenkai Liang, Prateek Saxena.
In the 35th IEEE Symposium on Security and Privacy(S&P 2014)

Detecting Unexpected Behaviors in HTML5 Mobile Apps using Difference in Execution Context
Jian Mao, **Yaoqi Jia**, Xinshu Dong, Yue Chen, Ruilong Wang, Zhenkai Liang.
In the 35th IEEE Symposium on Security and Privacy(S&P 2014)

HONORS AND
AWARDS

- Dean's Graduate Research Excellence Award, 2017
- Second Place for Deep Learning Security Workshop in SGCSC, 2017
- Student Travel Grant for S&P 14, RAID 14, USENIX Security 16, PETS 16, CCS 16
- CVE-2014-7948 for Chrome, CVE-2015-5907 for Safari, 2015

- Chromium Security Reward (for bug 414026), 2015
- Best Paper Award in ICECCS, 2014
- Best Paper Award in W2SP, 2014
- NUS Research Scholarship, 2012 - 2016
- Excellent Graduate of HUST, 2012
- Google Excellence Scholarship, 2011
- National Scholarship, 2009, 2010
- Excellent Student of HUST, 2009, 2010

Teaching Assistant
National University of Singapore, Singapore.

July, 2013 - December, 2014, 2016

PROFESSIONAL
SERVICE

Student PC: IEEE Symposium on Security and Privacy (S&P)' 17
Reviewer: IEEE Transactions on Information Forensics and Security (TIFS)
External Reviewer: S&P'15, 16; CCS'15, 16; Usenix Security'15, 17; NDSS'15 - 17; WWW'15;
AsiaCCS'14, 15; ICDCS'16, 17

SOCIAL
EXPERIENCE

Senior Director
[Graduate Students' Society](#), NUS, Singapore.
General Secretary
[Graduate Students' Society](#), NUS, Singapore.

September, 2012 - August, 2013

September, 2013 - August, 2014

REFERENCES

Dr. Zhenkai Liang (advisor)
Associate Professor
School of Computing
National University of Singapore
Email: liangzk@comp.nus.edu.sg

Dr. Prateek Saxena (co-advisor)
Assistant Professor
School of Computing
National University of Singapore
Email: prateeks@comp.nus.edu.sg

Dr. Roland Yap (collaborator)
Associate Professor
School of Computing
National University of Singapore
Email: ryap@comp.nus.edu.sg

Dr. Min Suk Kang (collaborator)
Assistant Professor
School of Computing
National University of Singapore
Email: kangms@comp.nus.edu.sg