Yaoqi JIA

CONTACT
INFORMATION

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SHORT BIO

I'm the founder of Alt Research and building AltLayer Network, an elastic and versatile scaling protocol for Web3. Before 2022, I was the director of Parity Asia and was selected to the Forbes 30 Under 30 Asia list, 2019. Formerly as the co-founder and CTO at Zilliqa, I was leading the development of a new public blockchain for high-throughput applications. I proposed several technologies in my research as the building blocks for next-generation blockchain, addressing consensus and privacy issues. I got my Ph.D. from the National University of Singapore. My research work has been published in top international conferences, such as CCS and USENIX Security. I have received the Best Paper Award in W2SP and ICECCS. My work was acknowledged by Google and Apple, and has received media coverage including Bitcoin Magazine, Forbes and CNBC.

RESEARCH
INTERESTS

Distributed System Security; Blockchain 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.

HONORS AND
AWARDS

- Forbes 30 Under 30, 2019
- Dean's Graduate Research Excellence Award, 2017
- Second Place for Deep Learning Security Workshop in SGCSC, 2017
- 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
- Google Excellence Scholarship, 2011
- National Scholarship, 2009, 2010

PROFESSIONAL
SERVICE

PC: ACM ASIA Conference on Computer and Communications Security' 19
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

EDUCATION

National University of Singapore, Singapore

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

- Advisor: Zhenkai Liang & Prateek Saxena

PROFESSIONAL
EXPERIENCE

Founder   January, 2022 - Present
Alt Research, Singapore.

Advisor   January, 2022 - Present
Parity Technologies, Germany/UK.

Director of Parity Asia   November, 2019 - December, 2021
Parity Technologies, Germany/UK.

Founder & Chief Advisor   September, 2019 - Present
Advanca/Automata, Singapore.

Co-founder & Advisor   September, 2019 - Present
Zilliqa Research, Singapore.

Cheif Technology Officer & Co-founder   October, 2017 - August, 2019
Zilliqa Research, Singapore.

Research Fellow   August, 2017 - October, 2017
National University of Singapore, Singapore.

PUBLICATIONS:
PEER-REVIEWED
CONFERENCES &
JOURNALS

Robust Synchronous P2P Primitives Using SGX Enclaves
Yaoqi Jia, Shruti Tople, Tarik Moataz, Deli Gong, Prateek Saxena and Zhenkai Liang.
In the 23rd International Symposium on Research in Attacks, Intrusions and Defenses (RAID 2020)

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)

PRO-ORAM: Constant Latency Read-Only Oblivious RAM
Shruti Tople, **Yaoqi Jia**, Prateek Saxena.
In the 22nd International Symposium on Research in Attacks, Intrusions and Defenses (RAID 2019)

Abusing CDNs for Fun and Profit: Security Issues in CDNs' Origin Validation
Run Guo, Jianjun Chen, Baojun Liu, Jia Zhang, Chao Zhang, Hai-Xin Duan, Tao Wan, Jian Jiang,
Shuang Hao, **Yaoqi Jia**.
In the 37th IEEE Symposium on Reliable Distributed Systems (SRDS 2018)

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

The ZILLIQA Technical Whitepaper
The Zilliqa Team.

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.

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)
Associate Professor
School of Computing
National University of Singapore
Email: prateeks@comp.nus.edu.sg

Dr. Xinshu Dong (collaborator)
Co-founder & Partner
Zilliqa & IOSG
Email: xinshu@iosg.vc

Dr. Loi Luu (collaborator)
CEO and Co-founder
Kyber Network
Email: loiluu@kyber.network

Dr. Gavin Wood (collaborator)
Co-founder
Polkadot & Ethereum & Parity & Web3 Foundation