

Alex Luoyuan Xiong

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EDUCATION

- **Nanyang Technological University** Singapore, SG
B.Eng in Electrical and Electronic Engineering Aug. 2015 – Present
 - GPA: 4.64/5.0, First Class Honors (on track)
 - Minor in Entrepreneurship: with courses including Marketing, Accounting and Finance, Growth Hacking and Enterprise Strategy

EXPERIENCE

- **Kyber Network** Singapore, SG
Blockchain Researcher Nov 2017 – Present
 - **GORMOS:** Co-author and core developer of GORMOS, a novel protocol for high performance decentralized applications that achieve high throughput and great interoperability. Building on top of technologies including Plasma, sharding and PeaceRelay, the protocol allows asymptotically optimal scaling up to millions of transactions per second without compromise on security or decentralization.
- **Blockchain at NTU** Singapore, SG
President & Founder Sept 2017 – Present
 - Bootstrapped a R&D-oriented community around Blockchain technology with 100+ members
 - Conducted programming workshops, industrial talks and academic paper reading in pursuit of raising awareness, educating future talents and exercising academically rigorous approach towards Blockchain designs
- **National Cybersecurity R&D Lab** Singapore, SG
Full-stack Developer Aug 2017 – Dec 2017
 - **Full-stack Web Development:** Architected and developed a web portal for a catalog for discovered vulnerabilities and reproducible exploits from scratch, using *Django Framework* and *RESTful* design. Deployed website on *Nginx Server*, available at <http://vindex.ncl.sg>
- **ConsenSys LLC** New York, NY
Blockchain Security Intern May 2017 – Oct 2017
 - **Bytecode Verifier:** Developed an open-sourced command line tool, noticeably simplified the verification of actual compiled bytecode of smart contracts against that on Blockchain.
 - **Smart Contract Audit:** Co-audited smart contracts in *0x-Project*, a decentralized token exchange, with ConsenSys Diligence team; Identified an exploit and mitigated it by proposing workarounds and corresponding testing code; Contributed to the final security auditing report (https://github.com/ConsenSys/0x_review); *0x-Project* securely launched their token sales on 15th Aug, 2017, successfully raised 24 million USD worth of Ether.
 - **Payment Channel on Trusted Hardware:** Co-developed a prototype for Off-chain Payment Channel on Ethereum using *IntelSGX* under the lead of Ittay Eyal and Iddo Bentov from Cornell University during *Cornell IC3 Bootcamp 2017*.
 - **Vyper ERC223 Contract:** Self-taught and developed an ERC223 Standard token contract in *Vyper* language during ConsenSys 30-hour Hackathon

PROJECTS

- **Ethereum Bytecode Verifier:** Open source command line tool for fast smart contract bytecode verifications on Ethereum Blockchain.
- **AUTHVIEW:** Decentralized Review System with *React.js*, Chrome extension, *Nodejs Express Server* and *Solidity* Smart Contract.
- **Alexa Controlled Robotic Arm:** A voice controlled robotic arm playing sliding puzzle using *Amazon Web Service*, *Alexa* and *Arduino*.
- **Personal Blog:** a static website built with *Github Page* using *Jekyll Framework*.

PROGRAMMING SKILLS & RESEARCH INTEREST

- **Research Interest:**
 - **Applied Cryptography:** Lattice-based primitives, Zero Knowledge Proof, Secure Multi-Party Computation;
 - **Distributed System:** Proof of Replication, Erasure Coding, IPFS.
- **Languages:**
 - **Experienced:** Javascript, Python, Solidity;
 - **Competent:** Golang
- **Technologies Stack:**
 - **Blockchain:** Layer-2 Scaling, Truffle, Smart Contract Security
 - **Web Development:** Reactjs, Redux, Django, Jekyll
 - **Software Engineering:** Travis CI, Docker, Kubernetes, AWS