

Short Biography

- Ju Chen is currently a third-year Ph.D. student in Computer Science at Syracuse University. He has worked in Intel for six years as a software engineer. His research work has been published in SecureComm, IEEE Cloud, SysTex, etc. His research interest lies in computer systems and cyber-security. His research work usually involves writing systems-level code and integrating with complex systems.

Publications

- Qiwu Zou, Yuzhe Tang, **Ju Chen**, Kai Li, Charles Kamoua, Kevin Kwiat, Laurent Njilla. "ChainFS: Blockchain-Secured Cloud Storage", IEEE Cloud 2018
- K. Areekijseer, Yuzhe Tang, **Ju Chen**, Shuang Wang, Arun Iyengar and B. Palanisamy. "Secure and Efficient Multi-Party Directory Publication for Privacy-Preserving Data Sharing." SecureComm 2018, AR=30.6%
- Yuzhe (Richard) Tang, Zihao Xing, **Ju Chen**, Cheng Xu and Jianliang Xu. "Lightweight Logging over the Blockchain for Data-Intensive Applications", 2nd Workshop on Trusted Smart Contracts 2018 at Financial Cryptography (Workshop paper)
- **Ju Chen**, Yuzhe (Richard) Tang and Hao Zhou. "Strongly Secure and Efficient Data Shuffle on Hardware Enclaves", SysTex 2017 at ACM SOSP (Workshop paper)
- Yuzhe Tang and **Ju Chen** "Log-structured Authenticated Cloud storage with minimal trust using Intel SGX", Technical Report (<https://eprint.iacr.org/2016/1063.pdf>)
- John Ye, **Jason Chen**, Tianzhou Chen and Qinsong Shi, "Conflict-Free Code Block Scheduling to Hide SpMT Inter-Core Register Sync Delay", PDCAT '14
- John Ye, **Jason Chen**, Tianzhou Chen, Minghui Wu and Li Liu, "Offline Data Dependence Analysis to Facilitate Runtime Parallelism Extraction", CSE '14
- **Ju Chen**, Qi Zhao and Jinming Dong, "Research on kernel encoding function of H.264 CODEC JM8.6", Computer Engineering and Design 2008-17

Project Experiences

- **Log-structured Authenticated Key-Value Stores using SGX**
 - This project aims to enable authenticated high-performance key-value stores for cloud services. To instantiate the system with Intel SGX, we proposed novel techniques regarding code partitioning and data placement. I implemented an end-to-end functional key-value store based on Google's LevelDB. We summarized the project with a technical report. ([Link](#))
- **Cache-miss Oblivious Data Analytics Framework**
 - This project aims to build a generic data analytics framework enabling cache-miss obliviousness. We proposed novel techniques regarding the use of Intel TSX including transaction partitioning and memory shadowing. I built a functional run-time library supporting various computations. The preliminary result was published in Systex'17. ([Systex'17 Paper](#))
- **Miscellaneous projects**
 - Intel SGX emulator by Linux Kernel module ([GitHub repo](#))
 - Query Optimization in PostgreSQL for federated databases
- **Early projects**
 - Intel's display driver. Intel display driver is used by Laptops, Desktops and Portable devices equipped with Intel CPUs. Ju Chen was the member of the core development team. ([Source Code](#))
 - USB-over-IP protocol.
 - USB gadget driver in Linux for Intel's low-power platforms.

Research and Teaching

Research Assistant	Syracuse University	Fall 2015 - Present
<ul style="list-style-type: none">• Research Interests: Cyber-security, Cloud computing and Operating systems• Current Research: Data-oblivious query processing and Verifiable cloud storage.		
Teaching Assistant	Syracuse University	Spring 2017 - Present
<ul style="list-style-type: none">• Teaching assistant for CIS655 - Advanced Computer Architecture (course website).• Teaching assistant for CIS/FIN600 - Blockchain and Cryptocurrencies (course website)		

- Designed homework, labs, and exams. Conducted lectures. Hosted help sessions for students.

Education

Syracuse, NY	Syracuse University	Fall 2015 – Present
<ul style="list-style-type: none">• Ph.D. candidate in Computer Science. GPA: 3.88• Graduate Coursework: Computer Security; Cloud Computing; Operating systems; Applied Cryptography;		
Beijing, China	Beihang University	Fall 2001 – Spring 2008
<ul style="list-style-type: none">• Bachelor and Master in Electrical Engineering		

Employment

- **Spring 2008 - Fall 2015:** Software Engineer, Intel Corporation, Beijing, China
- **2007:** Software Engineer Intern, Agilent Technologies, Beijing, China

Awards and services

- **2017:** iDash 2017 Student Travel Grant
- **2009:** Intel Division Recognition Award
- **Conference Reviewer:** TKDE and ICPADS

Skills

- **Software:** Rich experiences in complex system-level softwares such as Operating Systems (e.g. Linux Kernel, Android), Database Management Systems (e.g. PostgreSQL, LevelDB) and Blockchain (e.g. Ethereum)
- **Programming Languages:** C/C++ and Java
- **Tools:** GNU make, GDB and Git