

Short Biography

- I am a second year computer science Ph.D. student in Syracuse University. Previously, I was a software engineer in Intel Corporation. I have been continuously working on system-level softwares such as Linux Kernel, Device Drivers and Database Systems. I know how to quickly tweak existing complex softwares.

Research and Teaching

Research Assistant	Syracuse University	Fall 2015 - Present
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- 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
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- Teaching assistant for CIS655 - Advanced Computer Architecture ([course website](#)).
- Designed homeworks, labs and exams. Conducted lectures. Hosted help sessions for students.

Publications

- 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

Technical Experiences

- **2016:** Designed and implemented a trustworthy data store using Intel SGX.
 - To secure the data storage in the cloud, we proposed a novel approach by using Intel's Software Guard Extension and existing cryptography primitives.
 - Finished the software design and implementation.
 - Published a technical report for the project. ([Link](#))
- **2015:** Designed and implemented Intel SGX emulator by Linux Kernel module ([GitHub repo](#))
 - I was one of the main contributors to build an Emulator for Intel's Software Guard Extensions.
 - The emulator is now being used to design hands-on labs for "Advanced Computer Architecture", one of the Syracuse University's CS courses.
- **2009-2010, 2013-2015:** Developed display drivers for Intel's integrated graphics card. ([Source Code](#))
 - Intel's display driver is now being used in almost every server, desktop, laptop and smartphone, as long as it's built on Intel's platform. I was the major contributor in the development team and one of the first pioneers to enable new features for the product (e.g. HDMI connection).
 - Solved urgent technical issues for our OEM customers like NEC, Dell and Lenovo.
- **2012:** Designed and implemented Android application to demonstrate the capabilities of Wi-Fi direct ([Wi-Fi direct](#))
 - The purpose of the research project was to explore new use cases for Wi-Fi direct which enables peer-to-peer connection between mobile devices.
 - Proposed a user case where two connected devices can take pictures collaboratively (by sharing preview) and later on present stitched images to the user.
 - Finished design and implementation of the Android application which covered the areas of network communication, live streaming and image processing.
- **2011:** Designed and Implemented USB-over-IP protocol.
 - The project enables cross-platform USB device sharing through wireless networks. I was one of the two early engineers to design and implement the USB-over-IP protocol.
- **2008:** Developed USB gadget driver for Intel's low-power platform in Linux.
 - USB gadget driver is now being used in almost every mobile device with USB client interface as long as it is built on Intel's platform.

- I was the main contributor in the development team.

Education

Syracuse, NY

Syracuse University

Fall 2015 – Present

- Ph.D. candidate in Computer Science. GPA: 3.88
- Graduate Coursework: Computer Security; Cloud Computing; Operating systems; Applied Cryptography;

Industry Experiences

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

Awards and services

- **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) and Database Management Systems (e.g. PostgreSQL, LevelDB)
- **Programming Languages:** C++; C; Java; Python; Shell; Lua; Lisp
- **Tools:** GCC; GNU make; GDB; Git; OpenSSL