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Ju Chen

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Research

Research Assistant **Syracuse University** **Fall 2015 - Present**

- **Research Interests:** Cryptography, Cloud computing and Operating systems
- **Advisor:** Dr. Yuzhe Tang
- **Current Research:** Data-oblivious query processing
  - Designed and implemented oblivious query processing based on PostgresSQL
- **Previous:** Secure Multi-Party Relational Databases
  - Designed and implemented MPC-aware cost estimation and query optimization.
- **Previous:** Verifiable consistency of outsourced cloud storage (Paper Link)
  - Designed a write-optimized authentication data structure with novel use of Intel SGX
  - Implemented the design on Google LevelDB and evaluated the performance
  - Designed a consistency checker for transactional isolation

Publications

- Yuzhe Tang and **Ju Chen** "Log-structured Merge Design of Authenticated Data Structures for Efficiently Verifiable Cloud Outsourcing", 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

Software Projects

- **2016:** Designed and implemented trustworthy key-value store based on LevelDB using SGX
- **2015:** Designed and implemented Intel SGX emulator by Linux Kernel module (GitHub repo)
- **2009-2010, 2013-2015:** Developed display drivers for Intel's integrated graphics card in Linux Kernel (Source Code)
- **2012:** Designed and implemented Android application to demonstrate the capabilities of Wi-Fi direct (Wi-Fi direct)
- **2011:** Designed and Implemented USB-over-IP protocal via device drivers in Windows.
- **2008:** Developed USB gadget driver for Intel's low-power platform in Linux
- **2007:** Developed instrument test automation tools for Agilent Instruments.

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. PostgresSQL, LevelDB)
- **Programming Languages:** C++; C; Java; Python; Shell; Lua; Lisp
- **Tools:** GCC; GNU make; GDB; Git