

## Shuang Chen

### ADDRESS

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### Email

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### EDUCATION

**Cornell University**, NY, USA.

Aug 2015 ~ Present

Ph.D. Student, Electrical and Computer Engineering

- Computer Systems Laboratory
- GPA: **3.9**/4.0
- Committee: José F. Martínez (advisor), Christina Delimitrou, Robbert van Renesse

**Shanghai Jiao Tong University**, China

B.S., Computer Science (SJTU ACM Class), Zhiyuan College

Sept 2011 ~ July 2015

- Overall GPA: **3.93**/4.3 (**90.6**/100)      Major GPA: **3.99**/4.3 (**91.5**/100)
- Rank the **3rd** in ACM Class (Ranked the **1st** in junior year)

### PUBLICATIONS

- **Shuang Chen**, Shay Galon, Christina Delimitrou, Srilatha Manne, and José F. Martínez, “Workload Characterization of Interactive Cloud Services on Big and Small Platforms,” in *the 2017 IEEE International Symposium on Workload Characterization (IISWC)*, Oct 2017.
- Xiaodong Wang, **Shuang Chen**, Jeff Setter and José F. Martínez, “SWAP: Effective Fine-grain Management of Shared Last-level Caches with Minimum Hardware Support,” in *the 23rd IEEE HPCA International Conference on High Performance Computer Architecture (HPCA)*, Feb 2017.
- **Shuang Chen**, Shunning Jiang, Bingsheng He and Xueyan Tang, “A Study of Sorting Algorithms Using Approximate Storage,” in *2016 ACM SIGMOD International Conference on Management of Data (SIGMOD)*, June 2016.
- Naifeng Jing, Shunning Jiang, **Shuang Chen**, Jinjie Zhang, Li Jiang, Chao Li and Xiaoyao Liang, “Bank Stealing for a Compact and Efficient Register File Architecture in GPGPU,” in *IEEE Transactions on Very Large Scale Integration (VLSI) Systems*, 2016.
- Naifeng Jing, **Shuang Chen**, Shunning Jiang, Li Jiang and Xiaoyao Liang, “Bank Stealing for Conflict Mitigation in GPGPU Register File,” in *the 2015 ACM/IEEE International Symposium on Low Power Electronics and Design (ISLPED)*, July 2015.

### HONORS AND AWARDS

- **Cornell Graduate Fellowship**, Cornell University, 2015
- **Outstanding Graduate**, Shanghai Jiao Tong University, 2015 (top 1%)
- **Outstanding Graduate in Zhiyuan College**, Shanghai Jiao Tong University, 2015 (top 12)
- **Kai Yuan Scholarship**, Shanghai Jiao Tong University, 2013 (top 20 in Zhiyuan College)
- ACM-ICPC (International Collegiate Programming Contest) Asia Regional
  - **4th place** in Hsinchu Site, 2011 (Team TrustMe)
  - **Gold medal** in Beijing Site, 2011 (Team TrustMe)
- **Silver medal** (ranked the 64th) in National Olympiad in Informatics, China, 2010

## RESEARCH EXPERIENCE

**Research Assistant** at M<sup>3</sup> Architecture Research Group  
Computer Systems Laboratory, Cornell University, NY, USA.

August 2015 ~ Present

- *Advisor: José F. Martínez*
  - Optimization of cache and memory systems
  - Resource management in datacenters and large-scale systems

**Research Assistant** at Xtra Computing Group  
Parallel and Distributed Computing Centre  
Nanyang Technological University, Singapore

August 2014 ~ Feb 2015

- *Advisors: Bingsheng He and Xueyan Tang*
  - Shared data management in GPU L2 cache
  - Approximate database systems

**Summer Intern** at M<sup>3</sup> Architecture Research Group  
Computer Systems Laboratory, Cornell University, NY, USA.

July 2014

- *Advisor: José F. Martínez*
  - Memory bank partitioning in multicore systems

**Research Assistant** at Advanced Computer Architecture Laboratory  
Shanghai Jiao Tong University, China

July 2013 ~ June 2014

- *Advisor: Xiaoyao Liang*
  - Optimization of GPGPU Register File

## WORK EXPERIENCE

**Software Engineering Intern** at Cavium Inc.  
San José, CA, USA.

Summer 2016

- *Manager and Mentor: Bobbie Manne*
  - Cache and memory system in Cavium ThunderX2
  - Performance analysis of cloud applications

## TEACHING EXPERIENCE

**Head Teaching Assistant** of Computer Systems Programming (ECE2400)  
Cornell University, the U.S.

Spring 2017

**Teaching Assistant** of Computer Architecture (ECE4750/CS4420)  
Cornell University, the U.S.

Fall 2016

**Teaching Assistant** of C++ Programming (CS110)  
Shanghai Jiao Tong University, China

Fall 2012

## SELECTED COURSE PROJECTS

- Accelerators for SSSP Algorithms
- Spring 2016

- Fatworm: A DBMS Design and Implementation Project in Java **Code: 10,000 Lines** Spring 2014
- NachOS: An OS Design and Implementation Project in Java Fall 2013
- Network Coding in OpenCL Fall 2013
- A Simplified C Compiler in Java **Code: 9,000 Lines** Spring 2013
- A Pipelined CPU with Bypassing in Verilog Spring 2013
- A Library Management System in C++ Fall 2011

### SKILLS

- Programming and Software:
  - Proficient: Pascal, C, C++, Java, Python, MySQL, L<sup>A</sup>T<sub>E</sub>X, Matlab.
  - Basic: Verilog DHL, OpenCL, CUDA.
- Language: Chinese (native), English
- Electronic organ, Certificate of Musical Level Ten in China (highest level for amateurs).

### EXTRACURRICULAR ACTIVITIES

**Executive Director** of CCF (China Computer Federation) Student Union at SJTU 2011 ~ 2014