

Education

- 2013–Present **Ph.D., Computer Science, New York University.**
- Advisor: Dr. Jinyang Li
- Research Topic: Distributed Systems, especially in Distributed Programming Frameworks.
- 2005–2007 **M.S., Computer Science, National Tsing Hua University.**
- Advisor: Dr. Jenq-Kuen Lee
- Thesis Topic: Microkernel Design and Dual-core Supports for PAC VLIW DSP Processors.
- 2001–2005 **B.S., Computer Science, National Tsing Hua University.**

Research Interests

Distributed computing, file system, embedded software and algorithm design.

Publications

Get More With Less: Near Real-Time Image Clustering on Mobile Phones.

Jorge Ortiz, Chien-Chin Huang, Supriyo Chakraborty.
Technical Report, 2015

Spartan: A Distributed Array Framework with Smart Tiling.

Chien-Chin Huang, Qi Chen, Zhaoguo Wang, Russell Power, Jorge Ortiz, Jinyang Li, Zhen Xiao.
USENIX Annual Technical Conference, July 2015

Garbage Collection for Multiversion Index in Flash-based Embedded Databases.

Po-Chun Huang, Yuan-Hao Chang, Kam-Yiu Lam, Jian-Tao Wang, Chien-Chin Huang.
ACM Transactions on Design Automation of Electronic Systems, June 2014

Enhancing Microkernel Performance on VLIW DSP Processors via Multiset Context Switch.

Brian K. Hsieh, Yung-Chia Lin, Chien-Chin Huang, and Jenq Kuen Lee.
Journal of Signal Processing Systems, Vol. 51.

Research Projects

- 2014-present **Spartan: Distributed Array Programming Framework.**
Spartan is a distributed array framework which provides several data-flow high-level operators to help users to implement distributed array programs. The ‘key’ for these operators is ‘extent’ which is a data structure representing the shape and location of the ‘value’, a ‘tile’ (sub-array). Spartan also contains more than 50 Numpy-like built-in APIs which implemented by the high-level operators.
- 2012-2013 **MVBT Flash: Multi-Version B-Tree Database for Flash Device.**
The project is to build a database based on multi-version b-tree on Flash devices. The major challenge of the idea is the out-place update property of Flash devices. Whenever a leaf has been updated, it will trigger all its ascendants to be updated and results in huge amount of outdated/invalid pages. A efficient garbage collection has been proposed to solve the issue.

Honors, Awards and Grants

- 2015 **ATC’15 Student Travel Grant.**
- 2014 **OSDI’14 Student Travel Grant.**
- 2007 **1st Place, Best Thesis Award,** Institute of Information Computing Machinery, Taiwan.
- 2006 **1st Place, Embedded System Design Contest,** Ministry of Education, Taiwan.
- 2006 **Selective Preference, SiliconAward, Embedded Software Group,** MXIC Inc..
- 2004 **7th Place, ACM International Collegiate Programming Contest (ICPC),** Kaohsiung Station.

Professional Experience

- 2015 **Summer Research Intern, IBM T.J. Watson Research Center,** Yorktown Heights, NY, USA.
- 2013–Present **Research Assistant, New York University,** New York, NY, USA.
- 2012–2013 **Research Assistant, Institute of Information Science, Academia Sinica,** Taipei, Taiwan.
- 2008–2012 **Senior Software Engineer, MediaTek Inc.,** Hsinchu, Taiwan.

2005–2007 **Graduate Research Assistant**, *National Tsing Hua University*, Hsinchu, Taiwan.