

# Shu-Chun Weng

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## Education

**M.S., M.Phil., Ph.D. Candidate**, Dept. of Computer Science, Yale University 2009.09 – present  
**B.S.**, Double Major in Computer Science and Mathematics, National Taiwan University  
- Major GPA: 4.0/4.0 Full GPA: 3.9/4.0 Rank: 15/142 2003.09 – 2007.06

## Experiences

**Teaching Assistant, Yale University** 2010 – 2013

- Compiler and Interpreters (Fall 2010 & Fall 2012), Operating Systems (Spring 2011), and Formal Semantics (Fall 2011 & Fall 2013). All three are senior and graduate level courses.

**Software Engineer Intern, Google Inc.** 2010.05 – 2010.08  
<http://www.google.com>

- Programmed in C++ and Python, including unit tests.

**Research Assistant under Prof. K. Chen, National Chungchi U.** 2006.02 – 2009.08  
<http://www.cs.nccu.edu.tw/~chenk>

- Work done mostly in Haskell and Java.

**System Administrator, PTT Bulletin-Board System** 2003.08 – 2009.08  
<http://ptt.cc>

- Persistent hardware, operating system, and library maintenance – we had upgraded the system, found the upstream libraries broken, and patched them more than once.

**Part-time Engineer, Institute for Information Industry** 2005.01 – 2007.09  
<http://www.iii.org.tw>

- Developed a real-time natural hazard monitoring system using Microsoft .NET framework 1.1, C#, and COM.

- Independently completed a deployment system akin to Java Web Start technology and shipped to several clients.

**Assistant coach of National Taiwan University ACM contest teams** 2006 – 2007

## Publications

- R. Gu, J. Koenig, T. Ramananandro, Z. Shao, N. Wu, *S.-C. Weng*, H. Zhang, and Y. Guo. “Deep Specifications and Certified Abstraction Layers,” in Proceedings of the 42th Annual ACM SIGPLAN-SIGACT Symposium on Principles of Programming Languages (POPL ’15): to appear.
- T. Ramananandro, Z. Shao, *S.-C. Weng*, J. Koenig, and Y. Fu. “A Compositional Semantics for Verified Separation Compilation and Linking,” in Proceedings of the 4th ACM-SIGPLAN Conference on Certified Programs and Proofs (CPP ’15): to appear.

- E. Syta, H. Corrigan-Gibbs, *S.-C. Weng*, D. Wolinsky, B. Ford, and A. Johnson. “Security Analysis of Accountable Anonymity in Dissent,” in *ACM Transactions on Information and System Security* 17(1): 4:1–4:35. New York, NY, USA, 2014. ACM.
- A. Thomson, T. Diamond, *S.-C. Weng*, K. Ren, P. Shao, and D. J. Abadi. “Fast Distributed Transactions and Strongly Consistent Replication for OLTP Database Systems,” *ACM Transactions on Database Systems* 39(2): 11:1–11:39. New York, NY, USA, 2014. ACM.
- A. Thomson, T. Diamond, *S.-C. Weng*, P. Shao, K. Ren, and D. J. Abadi. “Calvin: Fast Distributed Transactions for Partitioned Database Systems,” in *Proceedings of the ACM SIGMOD International Conference on Management of Data (SIGMOD ’12)*: 1–12. New York, NY, USA, 2012. ACM.
- A. Aviram, *S.-C. Weng*, S. Hu, and B. Ford. “Efficient System-Enforced Deterministic Parallelism,” in *Communications of the ACM* 55(5): 111–119. New York, NY, USA, 2012. ACM.
- K. Chen, *S.-C. Weng*, J.-Y. Lin, M. Wang, and S.-C. Khoo. “Side-Effect Localization for Lazy, Purely Functional Languages via Aspects,” in *Higher-Order and Symbolic Computation*, June 2011: 1–39. Hingham, MA, USA 2011. Kluwer Academic Publishers.
- A. Aviram, *S.-C. Weng*, S. Hu, and B. Ford. “Efficient System-Enforced Deterministic Parallelism,” in *The 9th USENIX Symposium on Operating Systems Design and Implementation (OSDI ’10)*: 193–206. New York, NY, USA, 2009. ACM. **Jay Lepreau Best Paper Award.**
- K. Chen, *S.-C. Weng*, M. Wang, S.-C. Khoo, and C.-H. Chen. “Type-Directed Weaving of Aspects for Polymorphically Typed Functional Languages,” in *Science of Computer Programming* 75(11): 1048–1076. Amsterdam, The Netherlands, 2010. Elsevier North-Holland, Inc.
- K. Chen, J.-Y. Lin, *S.-C. Weng*, and S.-C. Khoo. “Designing Aspects for Side-Effect Localization,” in *Proceedings of the 2009 ACM SIGPLAN workshop on Partial evaluation and program manipulation (PEPM ’09)*: 189–198. New York, NY, USA, 2009. ACM.
- K. Chen, *S.-C. Weng*, M. Wang, S.-C. Khoo, and C.-H. Chen. “A Compilation Model for Aspect-Oriented Polymorphically Typed Functional Languages,” in *Proceedings of the 14th international Symposium on Static Analysis (SAS ’07)*: 34–51. Berlin, Heidelberg, 2007. Springer Berlin Heidelberg.

## Honors and Activities

### Presidential Award, National Taiwan University

- 2 times (total 8), top 5% in class

### Succeeded in Google Summer of Code 2006

2006.5 – 2006.10

- Works on Perl 6 Self-hosting Bootstrap From Perl 5 and Rules

### First Place, National College Software Designing Contest

2004.11

(with C.-H. Hsiao and C.-Y. Lee)

### Third Place, ACM Computer Programming Contest Asia

2003.10

(with C.-H. Hsiao and C.-Y. Lee)

### Silver Award, International Olympiad in Informatics

2002.08

### Captain of varsity swimming team

2005.06 – 2006.06

## Specialties

- Programming languages: C/C++, x86/x64/MIPS assembly, Java, C#, Perl, Python, PHP, shell scripts, VBScript, Functional languages (Haskell, ML, OCaml, Scheme, Erlang, etc.), Prolog, and can master new languages very quickly.
- Disciplined programmer, relying on version control systems heavily, taking documentation and coding style seriously, and paying much attention to writing readable, reliable, and efficient code.
- Strong mathematics background, especially in discrete math and algebra.