

# Curriculum Vitae

**Chung-Chih Li, Ph.D.**  
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## Education

Ph.D. Computer & Information Science, Syracuse University, New York	2001
M.S. Computer Science, Lamar University, Texas	1991
B.S. Computer Science, Tamkang University, Taiwan	1986

## Working Experiences and Positions:

Illinois State University, Assistant Professor	since 2006
Lamar University, Assistant Professor	2002 ~ 2006
Colgate University, Visiting Assistant Professor	2001 ~ 2002
Syracuse University, TA/RA,	1995 ~ 2001
ETS, Research fellow in Mathematics Automatic Scoring Initiative project	1995
The National Science Council of Taiwan, Computer instructor	1992, 1994
The City Bank of Taipei, Computer instructor	1987
UB Technology, Programmer	1986 ~ 1989

## Honors and Awards

Texas Advanced Research Program (ARP) Award	2006
Research Enhancement Grant, Lamar University	2004
Research Enhancement Grant, Lamar University	2003
LePage Award, the Wilbur R. LePage Endowment	2001
Outstanding TA Award, Syracuse University	1998
National Science Foundation Award	1998
Scholarship, Syracuse University	1996 ~ 2001
Outstanding TA Award , Dept. of EECS, Syracuse University	1996
Research Fellowship, ETS	1995

## Teaching Experience

More details about the courses, lectures notes, and assignment can be found from the URL.

■ At Illinois State University	
ITK-179 Introduction to Data Structures	2006
ITK-327 Concepts of Programming Languages	2006
■ At Lamar University	2002 ~ 2006
COSC-1371 Introduction to Microcomputers/MS Office	2005
COSC-1173 Java Lab	2005, 2006
COSC-1336 CS1/Java	2004
COSC-1337 CS2/Java/Unix	2005

COSC-1373 CS1/C++	2002, 2003
COSC-1374 CS2/C++/Unix	2003, 2004, 2005
COSC-2336 Data Structures	2005
COSC-3302 Introduction to Computational Theory	2003, 2005, 2006
COSC-4307 Compiler Construction	2004, 2005, 2006
COSC-5314 Logic and Discrete Structures	2004, 2005
COSC-5340 Cryptography	2003, 2004
COSC-5340 Computational Learning Theory	2003, 2004
COSC-5340 Computational Complexity Theory	2004
COSC-5315 Foundation of Computer Science	2004
COSC-5320 Formal Languages	2002
COSC-5369 Graduate Projects (numerous projects advised)	2002 ~ 2005
COSC-5390 Thesis (numerous MS thesis advised)	2004
■ At Colgate University	2001 ~ 2002
COSC-100 Introduction to Internet and Data Analysis	2001, 2002
COSC-101 Introduction to Computing (C++)	2002
■ At Syracuse University	1995 ~ 2001
CIS-275 Discrete Mathematics and Data Structures	1998, 1999
CIS-375 Intermediate CS Mathematics	1997, 1998
CIS-500 Mathematics Logic	2001
CIS-520 Introduction to Abstract Mathematics	1996, 1997
CIS-623 Structured Programming and Formal Methods	2000
CIS-623 Semantics, Programming, and Verification	1996

### Teaching Interests

CS1/CS2, Data Structures, Algorithm Analysis, Compiler, Formal Languages, Programming Languages, Foundation of Computer Science, Discrete Mathematics, Cryptography, Machine Learning, Computational Complexity Theory.

### Scholar Activities

ACM SIGCSE, reviewer and session chair	2006
International Journal of Security and Networks, reviewer	2006
IEEE Int. Conf. on Communications 2006, reviewer	2005
ACM CCSC:CS, reviewer	2004
The 10th Int. Conf. on Applications of Computer Algebra, local organizer	2003

### Services

The ACM Student Programming Competition Team, programming trainer	2003, 2004
Administrator of NATPA's web and IP server at <a href="http://natpa.org">natpa.org</a>	2005 ~ 2006
■ Department Committees at Lamar University	
Research Enhancement Committee	2005
Discrete Mathematics Committee, chair	2004 ~ 2005
Textbook for CS1/CS2 Committee, chair	2003 ~ 2004
Retention Committee, chair	2003 ~ 2004

- University Committees at Lamar University
- The CS representative to the Consult of the College of Arts and Sciences. 2004 ~ 2005
- Study Abroad Committee 2003 ~ 2006

### Research Specialties

Computational Machine Learning, Inductive Inference Machines, Complexity Theory, Computability, Logic, Formal Languages.

### Research Interests

Computational Complexity, Algorithm Analysis, Discrete Mathematics, Combinatorial Mathematics, Recursion Theory, Logics, Formal Methods, Security, Theorem Proving, Cryptography, Computational Learning Theory, Artificial Intelligence, Natural Language Processing, Philosophy of Mathematics

### Publications

- Peer reviewed conference and journal papers:
- 1. Chung-Chih Li. Clocking type-2 computation in the unit cost model. *Computability in Europe: Logical Approach to Computational Barriers*, Walse, UK, June 2006.
- 2. Bo Sun, Chung-Chih Li, and Yang Xiao. A lightweight secure solution for RFID. *IEEE GLOBECOM 2006 - Network Security Symposium*, 2006.
- 3. Chung-Chih Li. An immediate approach to balancing nodes of binary search trees. *Journal of Computing Sciences in Colleges*, March 2006.
- 4. Chung-Chih Li and Hikyoo Koh. Using joseki for tactics deployment in computer go. *ICGA Journal*, 28(3):154-158, 2005
- 5. Bo Sun, Chung-Chih Li, Kui Wu, and Yang Xiao. A lightweight secure protocol for wireless sensor networks. *Special Issue of Elsevier Computer Communications on Wireless Sensor Networks, Performance, Reliability, Security and Beyond*, 2006.
- 6. Bo Sun, Chung-Chih Li, Kui Wu, and Yang Xiao. A lcg-based secure protocol for wireless sensor. In *Proceedings of IEEE International Conference on Communications, Wireless Ad Hoc and Sensor Networks Symposia*, 2006.
- 7. Chung-Chih Li and Hikyoo Koh. Canonical sequence directed tactics analyzer for computer go games. In *Proceedings of the Int. Conf. on Computational Intelligence for Modelling Control and Automation*, Vienna, Austria, November 2005.
- 8. Chung-Chih Li and Bo Sun. Using linear congruential generators for cryptographic purposes. In *Proceedings of the ISCA 20<sup>th</sup> International Conference on Computers and Their Applications*, pages 13–18, March 2005.
- 9. Chung-Chih Li, Hema Sagar R. Kandati, and Bo Sun. Security evaluation of email encryption using random noise generated by LCGs. *Journal of Computing Sciences in Colleges*, 20(4):294–301, 2005.
- 10. Chung-Chih Li. Asymptotic behaviors of type-2 algorithms and induced baire topologies. In *Proceedings of the Third International Conference on Theoretical Computer Science*, pages 471–484, Toulouse, France, August 2004.

11. Hema Sagar R. Kandati and Chung-Chih Li. Encrypting emails with lcm random noises. In *Fifth Annual Lamar Research Conference*, Beaumont, Texas, 2004.
12. Chung-Chih Li and James S. Royer. On type-2 complexity classes: Abstract. *IEEE Conference on Computational Complexity*, May 2003.
13. Chung-Chih Li and James S. Royer. On type-2 complexity classes: preliminary report. In *Proceedings of the Third International Workshop on Implicit Computational Complexity*, pages 123–138, Aarhus, Denmark, May 2001.
  - Submitted and under review
14. Chung-Chih Li. Asymptotic behaviors of type-2 algorithms and induced baire topologies. *Journal of Information and Computation*.
15. Chung-Chih Li. Time bounds and the unit cost model for clocking type-2 computation. *Journal of Theoretical Computer Science*.
  - Book and Thesis
16. Chung-Chih Li and Kishan Mehrotra. Problems on discrete mathematics, Volumes 1 & 2. Lecture notes, 403 pp, Syracuse University, 1998. (Used and published by Syracuse University; currently under negotiation with publishers for public publication).
17. Chung-Chih Li. *Type-2 Complexity Theory*. Ph.D. dissertation, Syracuse University, Syracuse, New York, USA, 2001.
18. Chung-Chih Li. *Analysis of Go Game Tactics Based on Predefined Canonical Sequences*. Master thesis, Lamar University, Beaumont, Texas, USA, 1991.
  - In Progress
19. Chung-Chih Li. *Buffered binary search trees*. (Experimental results collected)
20. Chung-Chih Li. *Speed-up theorems in type-2 computation*. (Main results proven)
21. Chung-Chih Li and James S. Royer. *Type-2 complexity theory*. (A survey journal paper)
22. Chung-Chih Li. A Brief Note on Church-Turing Thesis and R.E. Sets.

**Selected Topics of Thesis and Graduate Project Advised**

2002 ~ 2006

1. Energy Efficient Routing in Wireless Sensor Networks.
2. Secure Email System Using LCM Noise Encryption.
3. Email Encryption Using Linear Congruential Method And RSA.
4. Email Cryptosystem Using Elliptic Curve and LCM
5. A simple Hierarchical Approx. RBF Neural Networks: Extension and Enhancements
6. IR Communication Language for Autonomous Robotics
7. Intelligent Web Page Ranking Based on User Preferences.
8. Smart Client Application in Web Service
9. Discovery, Lookup, and Content Sharing Web Service