

# JING CHEN

US permanent resident

Assistant Professor, Department of Computer Science, Stony Brook University  
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## Education

**Ph.D. in Computer Science**, Massachusetts Institute of Technology, 2012.

Supervisor : Professor Silvio Micali

Minor : Mathematics

**M.Eng. in Computer Science**, Tsinghua University, 2007.

**B.Eng. in Computer Science**, Tsinghua University, 2004.

## Research Interests

Algorithmic Game Theory, Mechanism Design, Distributed Ledger and Cryptocurrency, Artificial Intelligence, Learning, Healthcare

## Academic Positions

**Postdoctoral Fellow**, School of Mathematics, Institute for Advanced Study, 2012 – 2013.

**Assistant Professor**, Department of Computer Science, Stony Brook University, 2013 – present.

**Affiliated Assistant Professor**, Department of Economics, Stony Brook University, 2014 – present.

**Affiliated Member**, Stony Brook Center for Game Theory, 2013 – present.

**Visiting Professor**, Institute for Theoretical Computer Science, Shanghai University of Finance and Economics, 2017 – present.

## Selected Honors

Air Force Visiting Faculty Research Award, 2017 (regretfully declined);

NSF CAREER Award, Division of Computing and Communication Foundations (CCF), 2016–2021;

Stony Brook University Discretionary Award by the CS Department, 2016;

Student Travel Award, 2nd Brazil Workshop of the Game Theory Society in Honor of John Nash, 2010;

Cisco Fellowship, EECS, MIT, 2007;

Outstanding Master Thesis, Computer Science, Tsinghua University, 2007;

Outstanding Graduate, Tsinghua University, 2004.

## Selected Academic and Professional Services

**Co-editor:** SIAM Journal on Computing, special issue on STOC 2016.

**Program committee:** 11th International Symposium on Algorithmic Game Theory (SAGT), 2018;  
9th Innovations in Theoretical Computer Science (ITCS), 2018;  
13th Latin American Theoretical Informatics Symposium (LATIN), 2018;  
13th Conference on Web and Internet Economics (WINE), 2017;  
16th International Conference on Autonomous Agents and Multiagent Systems (AAMAS), **senior PC**, 2017;  
48th Annual Symposium on the Theory of Computing (STOC), 2016;  
The ACM Conference on Electronic Commerce (EC), 2017, 2016, 2014, 2013.

**Local organizer:** Workshop on Adaptive Learning: Theory, Data, and Applications, Stony Brook Game Theory Summer Festival, 2017.  
Workshop on Complex Auctions and Practice, Stony Brook Game Theory Summer Festival, 2016.

**Faculty advisor**, Women in Computer Science (WiCS) at Stony Brook (an official ACM-W chapter).

**Faculty advisor**, Graduate Women in Science and Engineering (GWISE), Stony Brook University.

**Faculty representative** of Stony Brook Computer Science Department at National Center for Women & Information Technology (NCWIT).

**Directing committee**, CS Honors Program, Stony Brook University.

**Admission committee**, CS PhD/MS Program, Stony Brook University.

## Papers

### Journals

1. *Provision-After-Wait with Common Preferences*  
H. Chan, J. Chen, and G. Srinivasan  
**Transactions on Economics and Computation (TEAC)**, Vol. 5, Iss. 2, Article 12, 2017.
2. *Leveraging Possibilistic Beliefs in Unrestricted Combinatorial Auctions*  
J. Chen and S. Micali  
**Games**, Special Issue on Epistemic Game Theory and Logic, Vol. 7, Iss. 32, 2016.
3. *Optimal Provision-After-Wait in Healthcare*  
M. Braverman, J. Chen, and S. Kannan  
**Mathematics of Operations Research (MOR)**, Vol. 41, Iss. 1, pp. 352 - 376, 2016.
4. *Tight Revenue Bounds with Possibilistic Beliefs and Level-k Rationality*  
J. Chen, S. Micali, and R. Pass  
**Econometrica**, Vol. 83, No. 4, pp. 1619-1639, 2015.
5. *Mechanism Design with Possibilistic Beliefs*  
J. Chen and S. Micali  
**Journal of Economic Theory (JET)**, invited to the special issue dedicated to the interface between Economics and Computer Science, Vol. 156, pp. 77-102, 2015.
6. *The Robustness of Zero-Determinant Strategies in Iterated Prisoner's Dilemma Games*  
J. Chen and A. Zinger  
**Journal of Theoretical Biology (JTB)**, Vol. 357, pp. 46–54, 2014.
7. *The Order Independence of Iterated Dominance in Extensive Games*

- J. Chen and S. Micali  
**Theoretical Economics (TE)**, Vol. 8, pp. 125-163, 2013.
8. *Collusive Dominant-Strategy Truthfulness*  
 J. Chen and S. Micali  
**Journal of Economic Theory (JET)**, Vol. 147, Iss. 3, pp. 1300-1312, 2012.
9. *A New Framework to the Design and Analysis of Identity-Based Identification Schemes*  
 G. Yang, J. Chen, D. Wong, X. Deng, and D. Wang  
**Theoretical Computer Science (TCS)**, Vol. 407, Iss. 1-3, pp. 370-388, 2008.
10. *High Performance Architecture for Elliptic Curve Scalar Multiplication Based on FPGA* (in Chinese)  
 J. Chen, J. Jiang, D. Wong, X. Deng, and D. Wang  
**J. Computer Research and Development**, Vol. 45, Iss. 11, pp. 1947-1954, 2008.
11. *A Buffer Management Policy in IA-64 Large-Scale Video Streaming Servers* (in Chinese)  
 H. Yu, J. Chen, Y. Li, and W. Zheng  
**J. Computer Research and Development**, Vol. 43, Iss. 4, pp. 729-737, 2006.

## Refereed Conferences

12. *A success-history based learning procedure to optimize server throughput in large distributed control systems*  
 Y. Gao, J. Chen, T. Robertazzi, and K. A. Brown  
**16th International Conference on Accelerator and Large Experimental Physics Control Systems (ICALEPCS)**, 2017.
13. *Efficient Approximations for the Online Dispersion Problem*  
 J. Chen, B. Li, and Y. Li  
**44th International Colloquium on Automata, Languages and Programming (ICALP)**, 11:1-11:15, 2017.
14. *Provision-After-Wait with Common Preferences*  
 H. Chan and J. Chen  
**15th International Conference on Autonomous Agents and Multiagent Systems (AAMAS)**, pp. 278-286, 2016.  
 Presented at the 26th International Conference on Game Theory, 2015.
15. *Budget Feasible Mechanisms for Dealers*  
 H. Chan and J. Chen  
**15th International Conference on Autonomous Agents and Multiagent Systems (AAMAS)**, pp. 113-122, 2016.
16. *Rational Proofs with Multiple Provers*  
 J. Chen, S. McCauley, and S. Singh  
**7th Innovations in Theoretical Computer Science (ITCS)**, pp. 237-248, 2016.  
 Presented at the 26th International Conference on Game Theory, 2015.
17. *Auction Revenue in the General Spiteful-Utility Model*  
 J. Chen and S. Micali  
**7th Innovations in Theoretical Computer Science (ITCS)**, pp. 201-211, 2016.

18. *Better Outcomes from More Rationality*  
J. Chen, S. Micali, and R. Pass  
**6th Innovations in Theoretical Computer Science (ITCS)**, pp. 325-325, 2015.
19. *Truthful Multi-unit Procurements with Budgets*  
H. Chan and J. Chen  
**10th Conference on Web and Internet Economics (WINE)**, pp. 89-105, 2014.
20. *Optimal Provision-After-Wait in Healthcare*  
M. Braverman, J. Chen, and S. Kannan  
**5th Innovations in Theoretical Computer Science (ITCS)**, pp. 541-542, 2014.
21. *Mechanism Design with Set-Theoretic Beliefs*  
J. Chen and S. Micali  
**52nd Foundations of Computer Science (FOCS)**, pp. 87-96, 2011.
22. *Crowdsourced Bayesian Auctions*  
P. Azar, J. Chen, and S. Micali  
**3rd Innovations in Theoretical Computer Science (ITCS)**, pp. 236-248, 2012.
23. *Robust Perfect Revenue from Perfectly Informed Players*  
J. Chen, A. Hassidim, and S. Micali  
**1st Innovations in Theoretical Computer Science (ITCS)**, pp. 94-105, 2010.
24. *Robustly Leveraging Collusion in Combinatorial Auctions*  
J. Chen, S. Micali, and P. Valiant  
**1st Innovations in Theoretical Computer Science (ITCS)**, pp. 81-93, 2010.
25. *A New Approach to Auctions and Resilient Mechanism Design*  
J. Chen and S. Micali  
**41st Symposium on Theory of Computing (STOC)**, pp. 503-512, 2009.
26. *A More Natural Way to Construct Identity-Based Identification Schemes*  
G. Yang, J. Chen, D. Wong, X. Deng, and D. Wang  
**Applied Cryptography and Network Security (ACNS)**, pp. 307-322, 2007.
27. *Malicious KGC Attack in Certificateless Cryptography*  
M. H. Au, J. Chen, J. K. Liu, Y. Mu, D. Wong, and G. Yang  
**2nd Symposium on Information, Computer and Communications Security (ASIACCS)**, pp. 302-311, 2007.

## Working Papers

28. *Algorand: A secure and efficient distributed ledger*  
J. Chen and S. Micali. arXiv:1607.01341. 2017.
29. *Optimal Safety Patrol Scheduling Using Randomized Traveling Salesman Tour*  
H. Yang, S. Tsai, K. S. Liu, S. Lin, J. Chen and J. Gao, 2017.
30. *Simple Truthful Mechanisms for Broker's Profit in Two-Sided Markets*  
J. Chen, B. Li and Y. Li, 2017.
31. *Rational Proofs with Non-Cooperative Provers*  
J. Chen, S. McCauley and S. Singh. arXiv:1708.00521. 2017.
32. *The Query Complexity of Bayesian Auctions*

- J. Chen, B. Li, Y. Li and P. Lu. Stony Brook CS Technical Report SBCS-TR-2017-7. 2017.
33. *From Bayesian to Crowdsourced Bayesian Auctions*  
 J. Chen, B. Li, and Y. Li. arXiv:1702.01416. 2017.

## Technical Reports

34. *Resilient Mechanism Design Foundations for Governance of Cyberspace: Exploration in Theory, Strategy, and Policy*  
 S. Micali, N. Choucri, J. Chen, and C. Williams  
**MIT Political Science Department Research Paper No. 2013-30**, 2013.
35. *Budget-Balanced Maximization of Social Welfare Resilient to Unrestricted Collusion, Privacy, and Beliefs*  
 P. Azar, J. Chen, and S. Micali  
**Brazilian Workshop of the Game Theory Society (São Paulo)**, poster, 2010.
36. *Short Multi-Prover Quantum Proofs for SAT without Entangled Measurements*  
 J. Chen and A. Drucker  
**arXiv:1011.0716v2**, 2010.

## Patents

- Distributed Transaction Propagation and Verification System*. J. Chen and S. Micali. Pending, PCT/US17/31037.
- Private Data Processing*. M. V. Dijk, J. Chen, and S. Devadas. US20090158054/WO2009076669.

## Students

- Hau Chan**, PhD, Computer Science, June 2015. Co-advised with Luis Ortiz and Leman Akoglu. Hau received the 2015 Catacosinos Fellowship for Excellence in Computer Science, Stony Brook University.
- Shikha Singh**, PhD candidate, Computer Science. Co-advised with Michael Bender. Shikha received the 2017 John Marburger III Fellowship for Science, Engineering and Mathematics, Stony Brook University; and the 2016 Chateaubriand Fellowship of the Embassy of France in the United States.
- Bo Li**, PhD candidate, Computer Science. Project: Mechanism design with unstructured beliefs.
- Yang Yu**, PhD candidate, Economics. Co-advised with Sandro Brusco.
- Gowtham Srinivasan**, Master, Computer Science, June 2016. Thesis: The computational complexity of the Provision-After-Wait problem in healthcare.

## Teaching

- ◆ *Department of Computer Science, Stony Brook University, Stony Brook, NY*
- |             |  |
|-------------|--|
| Spring 2018 | CSE548/AMS542 Analysis of Algorithms   |
| Fall 2017   | CSE 385 Analysis of Algorithms: Honors |
| Spring 2017 | CSE548/AMS542 Analysis of Algorithms   |
| Fall 2016   | CSE540 Theory of Computation           |
| Fall 2015   | CSE540 Theory of Computation           |

- Spring 2015      CSE547/AMS547 Discrete Mathematics
- Fall 2014        CSE540 Theory of Computation
- Spring 2014     CSE691/ECO606 Computational Game Theory
- Fall 2013        CSE540 Theory of Computation
- Fall 2013 – present CSE642 Seminar in Algorithms
- ◆ *ACM Class, Zhiyuan College, Shanghai Jiao Tong University, Shanghai, China*
- Summer 2013    CS390 Computational Game Theory and Mechanism Design

## Lectures

- ◆ *Algorand: A secure and efficient distributed ledger*
  1. Economics and Computer Science research seminar, Harvard University, October 2017.
  2. Computer Science seminar, Brown University, October 2017.
- ◆ *Robust Strategic Decision-Making*
  3. Computer Science faculty seminar, Stony Brook University, October 2017.
- ◆ *The Query Complexity of Bayesian Auctions*
  4. Economics seminar, Stony Brook University, November 2017.
  5. **Semi-plenary speaker**, 28th International Conference on Game Theory: in Honor of Pradeep Dubey and Yair Tauman, New York, July 2017.
  6. Department of Computer Science and Engineering, Shanghai Jiao Tong University, June 2017.
  7. Institute for Theoretical Computer Science, Shanghai University of Finance and Economics, May 2017.
- ◆ *Efficient Approximations for the Online Dispersion Problem*
  8. Computer Science Department, Tsinghua University, Beijing, China, June 2017.
  9. Mathematics Department, Capital Normal University, Beijing, China, June 2017.
  10. Shanghai Theory Day, China, June 2017.
- ◆ *From Bayesian to Crowdsourced Bayesian Auctions*
  11. Computer Science Department, University of Texas at Austin, February 2017.
  12. Institute for Interdisciplinary Information Sciences, Tsinghua University, Beijing, China, December 2016.
  13. Department of Computer and Information Science, University of Pennsylvania, December 2016.
  14. Center for Finance, Stony Brook University, November 2016.
  15. IBM Thomas J. Watson Research Center, October 2016.
  16. CSAIL, MIT, October 2016.
  17. Department of Quantitative Economics, Maastricht University, Netherlands, September 2016.
  18. Institute for Theoretical Computer Science, Shanghai University of Finance and Economics, August 2016.
  19. Computer Science Department, Shanghai Jiao Tong University, August 2016.
- ◆ *Optimal Provision-After-Wait in Healthcare*
  20. INFORMS International Meeting, invited contribution, Hawaii, June 2016.
  21. **Keynote speaker**, China International Conference on Game Theory and Applications (CICGTA),

- Shanghai Jiao Tong University, China, December 2014.
22. Institute of Computing Technology, Chinese Academy of Sciences, July 2014.
  23. Innovations in Theoretical Computer Science (ITCS), Princeton, January 2014.
  24. Economics Seminar, Department of Economics, SUNY Albany, November 2013.
  25. Theory Seminar, Computer Science Department, Columbia University, October 2013.
  26. Computer Science Department Seminar, Stony Brook University, September 2013.
  27. North American Summer Meeting of the Econometric Society (NASM), University of Southern California, June 2013.
  28. Women and Mathematics, Institute for Advanced Study and Princeton University, May 2013.
  29. Second Cambridge Area Economics and Computation Day, Harvard University, April 2013.
- ◆ *Tutorial: Game Theory and Mechanism Design, I and II*
    30. Computer Science Department, Stony Brook University, November 2016.
  - ◆ *Rational Proofs with Multiple Provers*
    31. Crypto Seminar, Cornell Tech, October 2016.
    32. Charles River Crypto Day, MIT, October 2016.
    33. Theory Seminar, Computer Science Department, Columbia University, March 2016.
  - ◆ *Auction Revenue in the General Spiteful-Utility Model*
    34. 7th Innovations in Theoretical Computer Science (ITCS), January 2016.
    35. 11th World Congress of the Econometric Society (ESWC), Montreal, Canada, August 2015.
  - ◆ *When Computer Science Meets Economics*
    36. SUNY Korea Seminar, Stony Brook, November 2016.
    37. SUNY Korea Seminar, Stony Brook, October 2015.
  - ◆ *Resilient Mechanism Design*
    38. EECS Department, MIT, April 2015.
  - ◆ *How to Allocate Resources that You Do Not Own?*
    39. EECS Department, Northwestern University, February 2015.
  - ◆ *Better Outcomes from More Rationality*
    40. Innovations in Theoretical Computer Science (ITCS), Weizmann Institute of Science, Israel, January 2015.
  - ◆ *Epistemic Implementation and The Arbitrary-Belief Auction*
    41. Dagstuhl Seminar: Interface of Computation, Game Theory, and Economics. Germany, April 2013.
    42. DIMACS Theory of Computing Seminar, Rutgers, State University of New Jersey, March 2013.
    43. Mathematical Conversations, Institute for Advanced Study, November 2012.
    44. Center for Computational Intractability, Computer Science Department, Princeton University, October 2012.
    45. Postdoc Seminar, School of Mathematic, Institute for Advanced Study, September 2012.
    46. The 23rd Stony Brook Game Theory Festival of the Game Theory Society, Stony Brook University, July 2012.
    47. North American Summer Meeting of the Econometric Society, Northwestern, June 2012.

- ◆ *Computational Complexity in Mechanism Design*
  - 48. Tutorial, Computer Science/Discrete Mathematics Seminar, Institute for Advanced Study, November 2012.
- ◆ *Games, Solution Concepts, and Mechanism Design: A Very Short Introduction*
  - 49. Tutorial, Computer Science/Discrete Mathematics Seminar, Institute for Advanced Study, November 2012.
- ◆ *Resilient Mechanism Design and Combinatorial Auctions*
  - 50. Computer Science Seminar, Duke University, April 2012.
  - 51. Computer Science Seminar, Stony Brook University, February 2012.
- ◆ *Resilient Mechanism Design*
  - 52. The Women in Theory Workshop (WIT), rump session, Princeton, June 2012.
  - 53. Innovations in Theoretical Computer Science (ITCS), Graduating Bits, January 2012.
- ◆ *Mechanism Design with Set-Theoretic Beliefs*
  - 54. Laboratory for Financial Engineering Seminar, MIT, November 2011.
  - 55. Symposium on Foundations of Computer Science (FOCS), Palm Springs, October 2011.
  - 56. Institute for Advanced Study, Princeton, October 2011.
- ◆ *Crowdsourced Bayesian Auctions*
  - 57. Economics Department Seminar, Stony Brook University, April 2014.
  - 58. Workshop on New Trends in Mechanism Design, Copenhagen Business School, Denmark, September 2011.
  - 59. Workshop on Innovations in Algorithmic Game Theory, Institute of Advanced Studies, Hebrew University of Jerusalem, Israel, May 2011.
- ◆ *The Robustness of Extensive-Form Rationalizability*
  - 60. Computation and Economics Seminar, Institute of Advanced Studies, Hebrew University of Jerusalem, Israel, May 2011.
  - 61. Faculty of Industrial Engineering and Management, Technion, Israel, May 2011.
- ◆ *Robust Perfect Revenue from Perfectly Informed Players*
  - 62. Optimization and Network Game Theory Group, Laboratory for Information and Decision Systems, MIT, November 2010.
  - 63. Cryptography and Information Security Seminar, Computer Science and Artificial Intelligence Laboratory, MIT, October 2010.
  - 64. Workshop on Recent Developments in Mechanism Design, IAS, Princeton, June 2010.
  - 65. Theory Seminar, Computer Science Department, Boston University, May 2010.
  - 66. The 1st Symposium on Innovations in Computer Science (ICS'10), Beijing, January 2010.
- ◆ *Safe Rationalizability and Mechanism Design*
  - 67. The 2nd Brazilian Workshop of the Game Theory Society, University of São Paulo, Brazil, August 2010.
  - 68. Workshop on Solution Concepts for Extensive Games, Aarhus University, Denmark, June 2010.
- ◆ *The Second-Knowledge Mechanism*
  - 69. Workshop on Implementation Theory, 12th ACM Conference on Electronic Commerce

(EC'11), San José, California, June 2011.

70. Workshop on Decentralized Mechanism Design, Distributed Computing, and Cryptography (rump session), IAS and DIMACS, Princeton, June 2010.

◆ *A New Approach to Auctions and Resilient Mechanism Design*

71. China Theory Week, Institute for Theoretical Computer Science, Tsinghua University, Beijing, September 2009.

72. The 41st ACM Symposium on Theory of Computing (STOC'09), Maryland, June 2009.

## Other Professional Services

**Selected referee work:** TEAC, TE, IJGT, JOCO, IJA, Artificial Intelligence, Transactions on Network Science and Engineering, Transactions on Cloud Computing, International Journal of Computational Geometry and Applications, Israel Science Foundation, TARK'17, NetEcon'17, ITCS'17, HPCA'17, FOCS'15, ICALP'14, INFOCOM'14, WINE'13, ASIACRYPT'13, STOC'13, STOC'12, ITCS'12.

**PhD thesis committee:** Yu-Yao Lin, Computer Science, Stony Brook, 2018;

Ming Ma, Computer Science, Stony Brook, 2017;

Chien Chun Ni, Computer Science, Stony Brook, 2017;

Siming Li, Computer Science, Stony Brook, 2017;

Christian Nauerz, Quantitative Economics, Maastricht Univ., Netherlands, 2016;

Samuel McCauley, Computer Science, Stony Brook, 2016;

Hau Chan, Computer Science, Stony Brook, 2015;

Rui Shi, Computer Science, Stony Brook, 2014;

Mohammad T. Irfan, Computer Science, Stony Brook, 2013.