Curriculum Vitae

Po-An Chen

Contact Information

Department of Computer Science, Viterbi School of Engineering, University of Southern California
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Research Interests

I am generally interested in algorithms and game theory, specifically, algorithmic game theory, auctions and mechanisms design, learning in games, electronic commerce, social networks, multiagent and distributed systems. My current focus is on the effects of altruism and spite in game-theoretic settings as well as various equilibrium concepts and learning in repeated games. My other interests include randomized & approximation algorithms, optimization, probability, and statistics.

Education

08/2005 – 08/2011 Ph.D. in Computer Science, University of Southern California (USC), USA

Advisor: Prof. David Kempe

Dissertation: The Effects of Altruism and Spite on Games and Mechanisms

GPA: 3.964

Courses: Analysis of Algorithms; Game Theory; Structure and Dynamics of Networked Information; Algorithms for the New Age: Games, Economics, Networking, & Data Analysis (auditing); Approximation Algorithms; Randomized Algorithms; Theory of Computation; Foundations of Artificial Intelligence; Computer Vision; Advanced Operating Systems; Database Systems

08/2005 - 05/2007 M.S. in Computer Science, University of Southern California (USC), USA

09/2001 – 06/2003 M.B.A. in Information Management, National Taiwan University (NTU), Taiwan

Advisor: Prof. Yih-Kuen Tsay

09/1997 – 06/2001 B.B.A. in Information Management, National Taiwan University (NTU), Taiwan

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Awards

2005 – 2011	USC Tuition Scholarship (Research & Teaching Assistantship)
2007 – 2008	USC Annenberg Graduate Fellowship
04/2010	USC Annenberg Award for the 2nd Annual Research and Creative Project Symposium

Experiences

08/2006 – 08/2011: **Research Assistant**. Department of Computer Science, USC, USA

Advisor: Prof. David Kempe

System performance issues in terms of the "Price of Anarchy" and "Price of Stability" in game-theoretic settings with players of "other-regarding" (e.g., altruistic and spiteful) payoff functions, e.g., in (non-atomic) routing games, various atomic games, network vaccination games, and auctions, for various general equilibrium concepts and with learning in repeated games

Teaching Assistant

Analysis of Algorithms: Prof. Len Adleman (Fall 2010), Prof. Ming-Deh Huang (Fall 2009), Prof. David Kempe (Spring 2009), Dr. Shawn Shamsian (Spring 2007)

06/2010 – 08/2010: **Research Intern**. Algorithmic Game Theory Group in Algorithms, Combinatorics and Optimization (PNA1), Centrum Wiskunde & Informatica (CWI) Amsterdam, The Netherlands

Advisor: Prof. Guido Schaefer

The Price of Anarchy in different more general equilibrium concepts with players of other-regarding payoffs

08/2005 – 05/2006: **Graduate Research Assistant**. Distributed Scalable Systems Division, Information Sciences Institute (ISI), USC, USA

Implementing scheduling/coordination simulations in multiagent systems using integer programming solvers

08/2003 – 07/2005: **Full-Time Research Assistant**. Institute of Information Science (IIS), Academia Sinica, Taiwan

Advisor: Prof. Tyng-Ruey Chuang

Incentivizing peer-to-peer systems via pricing

07/2002 – 08/2002: **Summer Intern**. The E-Commerce Laboratory, Institute for Information Industry (III), Taiwan

System analysis

09/2001 – 06/2003: **Research Assistant**. Department of Information Management, NTU, Taiwan

Advisor: Prof. Yih-Kuen Tsay

Peer-to-peer routing networks

Teaching Assistant

Algorithms: Prof. Yih-Kuen Tsay (Spring 2003); Distributed Information Systems: Prof. Yuh-Jzer Joung (Fall 2002); Theory of Computing: Prof. Yih-Kuen Tsay (Spring 2002); Information Security, E-Commerce Technology: Prof. Yih-Kuen Tsay (Fall 2001)

Publications

- Po-An Chen, Bart de Keijzer, David Kempe, and Guido Schaefer. On the Robust Price of Anarchy of Altruistic Games. To appear (as a short paper) in *the 7th Workshop on Internet & Network Economics (WINE'11)*.
- Po-An Chen, Mary David, and David Kempe. Better Vaccination Strategies for Better People. In *Proceedings of the 11th ACM Conference on Electronic Commerce (EC'10)*. June 7-11, 2010. Cambridge, MA, USA (acceptance rate: 33%).

- Xiaoxun Sun, William Yeoh, Po-An Chen, Sven Koenig. Simple Optimization Techniques for A*-Based Search. In *Proceedings of the 8th International Conference on Autonomous Agents and Multiagent Systems (AAMAS'09)*. May 10-15, 2009. Budapest, Hungary (acceptance rate: 22%).
- Po-An Chen and David Kempe. Altruism, Selfishness, and Spite in Traffic Routing. In *Proceedings of the 9th ACM Conference on Electronic Commerce (EC'08)*. July 10-12, 2008. Chicago, IL, USA (acceptance rate: 19%).
- Po-An Chen and David Kempe. Altruism and Selfishness in Traffic Routing (a short version of "Altruism, Selfishness, and Spite in Traffic Routing"). In *the 45th Annual Allerton Conference on Communi- cation, Control, and Computing*. September 26-28, 2007. University of Illinois at Urbana-Champaign, IL, USA (invited talk).
- Rajiv T. Maheswaran, Craig M. Rogers, Romeo Sanchez, Pedro Szekely and Po-An Chen. Scaling in Domains with Uncertainty: Criticality Sensitive Coordination. In *the 3rd Workshop on Challenges in the Coordination of Large Scale Multi-Agent Systems (LSMAS), AAMAS 2006*.
- Rajiv T. Maheswaran, Craig M. Rogers, Romeo Sanchez, Pedro Szekely and Po-An Chen. Distributed Scheduling for Multi-Agent Teamwork in Uncertain Domains: Criticality-Sensitive Coordination. In *the Workshop on Multi-Agent Sequential Decision Making in Uncertain Domains (MSDM), AAMAS 2006*.
- Po-An Chen and Tyng-Ruey Chuang. Truthful Online Auctions for Pricing Peer-to-Peer Services. In *Proceedings of the 7th International IEEE Conference on E-Commerce Technology 2005 (CEC'05)*. July 19-22, 2005. Munich, Germany (acceptance rate: 21%).
- Po-An Chen and Yih-Kuen Tsay. Emulating Small-World Networks on Content-Addressable Networks. *Unpublished manuscript*. October 2004.
- Po-An Chen. A Scalable and Efficient Object Location Scheme Based on the Content-Addressable Networks Model. *Master thesis*. Department of Information Management, National Taiwan University. June 2003. Advisor: Prof. Yih-Kuen Tsay

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Services

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- The 12th ACM Conference on Electronic Commerce (EC'11). San Jose
- The ACM-SIAM Symposium on Discrete Algorithms (SODA'11). San Francisco
- The 3rd International Symposium on Algorithmic Game Theory (SAGT'10). Athens, Greece
- Games and Economic Behavior, 2009 (GEB'09)
- Distributed Computing: 19th International Conference (DISC'05), Cracow, Poland

Student volunteer

- CS Colloquium at USC (2006 - 2010)

Programming and Tools

Java, C++, SQL, XML, Maple

References

Prof. David Kempe
Advisor (Thesis committee chair) Email: dkempe@usc.edu

Prof. Ming-Deh Huang
Thesis committee Email: mdhuang@usc.edu

Prof. Harrison Cheng
Thesis committee Email: hacheng@usc.edu