

Patrick R. Jordan

Curriculum Vitae

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Research Interests

Artificial intelligence, multi-agent systems, algorithmic & empirical game theory, Internet monetization, ad auctions, automated supply chain management, trading agent strategies, and e-commerce

Education

- expected 2009 **PhD in Computer Science & Engineering**, *University of Michigan*, Ann Arbor, MI.
thesis title *Practical Strategic Reasoning with Applications in Market Games*
committee M. P. Wellman, J. K. MacKie-Mason, S. Singh, R. Sami, D. C. Parkes
- 2007 **MSE in Computer Science & Engineering**, *University of Michigan*, Ann Arbor, MI.
2006 **MSE in Financial Engineering**, *University of Michigan*, Ann Arbor, MI.
2004 **BS in Mathematics**, *Iowa State University*, Ames, IA.
2003 **BS in Computer Engineering**, *Iowa State University*, Ames, IA.

Professional Experience

Research

- 2007–present **Research Assistant**, *University of Michigan*, Ann Arbor, MI.
Strategic Reasoning Group.
- 2005–2007 **STIET Fellow**, *University of Michigan*, Ann Arbor, MI.
Doctoral research program focused on incentive-centered design.
- 2005 **Programmer Analyst**, *University of Michigan*, Ann Arbor, MI.
Computational Linguistics and Information Retrieval Group.
- 1998–2004 **Research Programmer**, *Iowa State University*, Ames, IA.
Gamma Ray Astronomy Group.

Industry

- 2007–present **Owner**, *Ensigment, LLC*, Sylvan Lake, MI.
e-Commerce startup focusing on predictive inventory management.
- 2005–present **President**, *Sweeney & Jordan, LLC*, Ann Arbor, MI.
e-Commerce consultancy focusing on ad auction bid management.

Teaching Experience

- winter 2008 Elementary Programming Concepts, *Graduate Student Instructor* [EECS Outstanding GSI Award]
fall 2007 Discrete Mathematics, *Graduate Student Instructor* [EECS Outstanding GSI Award]
winter 2005 Mathematics of Finance, *Graduate Student Instructor*

Undergraduate Research Mentoring

- summer 2008 Michigan Agent for Negotiated eXchange, *STIET Summer Research Opportunity Program*
students Bongseog Choi, Kemal P. Eren, and Flavio G. Kuperman

summer 2009 TAC Ad Auctions, *STIET Summer Research Opportunity Program*
students Guha Balakrishnan and Ye Wang

Honors and Awards

General

- 2009 Category Winner, Yahoo! Hack U at University of Michigan, *Yahoo!*
- 2007–2008 EECS Outstanding Graduate Student Instructor award, *University of Michigan*
- 2007 Best Poster, *Trading Agent Design and Analysis Workshop*
- 2005–2007 STIET Fellowship, *University of Michigan*
- 2004–2005 Regents Fellowship, *University of Michigan*
- 2000 Excellence in Mathematics Award, *Iowa State University*

Trading Agent Competition [<http://www.sics.se/tac/>]

- 2008 First Place (Deep Maize), *TAC Supply Chain Management Game*
- 2008 Second Place (Deep Maize), *TAC SCM Prediction Challenge*
- 2008 Second Place (MANX), *TAC Market Design Game*
- 2007 First Place (Deep Maize), *TAC SCM Prediction Challenge*
- 2007 Third Place (Deep Maize), *TAC Supply Chain Management Game*
- 2006 Third Place (Deep Maize), *TAC Supply Chain Management Game*
- 2006 Third Place (Blue Reason), *Bidding Agent Competition*
- 2005 Fourth Place (Deep Maize), *TAC Supply Chain Management Game*

Professional Activities

- 2009 IGERT Trainee, *NSF IGERT 2009 Principal Investigators Meeting*
- 2009 Program Committee, *TADA-09, IJCAI-09 Workshop on Trading Agent Design and Analysis*
- 2009 Program Committee, *QRASA-09, IJCAI-09 Workshop on Quantitative Risk Analysis for Security Applications*
- 2009 Program Committee, *Fifth Workshop on Ad Auctions, EC-09*
- 2008 Program Committee, *Internet Monetization Track, 17th International World Wide Web Conference*
- 2008 Program Committee, *TADA-08, AAAI-08 Workshop on Trading Agent Design and Analysis*
- 2008 Panelist, *TADA-08, AAAI-08 Workshop on Trading Agent Design and Analysis*

Organizations

Socio-Technical Infrastructure for Electronic Transactions (*STIET*)
Association for the Advancement of Artificial Intelligence (*AAAI*)

Refereed Journal Publications

- 1 Forecasting market prices in a supply chain game [extended version of AAMAS-07 paper] (C. Kiekintveld, J. Miller, P. R. Jordan, L. F. Callender, and M. P. Wellman). *Electronic Commerce Research and Applications*, to appear.
- 2 Minimal stereoscopic analysis for imaging atmospheric Cherenkov telescope arrays (S. LeBohec, C. Duke, and P. R. Jordan). *Astroparticle Physics*, 24:26-31, 2005.

Refereed Conference Publications

- 1 Generalization risk minimization in empirical games (with M. P. Wellman). *Eighth International Joint Conference on Autonomous Agents and Multiagent Systems*, Budapest, Hungary, 2009.

- 2 Searching for approximate equilibria in empirical games [extended version of TADA-07 paper] (P. R. Jordan, Y. Vorobeychik, and M. P. Wellman). *Seventh International Joint Conference on Autonomous Agents and Multiagent Systems*, pages 1063-1070, Estoril, Portugal, May 2008.
- 3 Empirical game-theoretic analysis of the TAC supply chain game [extended version of GTDT-06 paper] (P. R. Jordan, C. Kiekintveld, and M. P. Wellman). *Sixth International Joint Conference on Autonomous Agents and Multiagent Systems*, pages 1188-1195, Honolulu, Hawaii, May 2007.
- 4 Forecasting market prices in a supply chain game (C. Kiekintveld, J. Miller, P. R. Jordan, and M. P. Wellman). *Sixth International Joint Conference on Autonomous Agents and Multiagent Systems*, pages 1318–1325, Honolulu, Hawaii, May 2007.
- 5 Controlling a supply chain agent using value-based decomposition (C. Kiekintveld, J. Miller, P. R. Jordan, and M. P. Wellman). *Seventh ACM Conference on Electronic Commerce*, pages 207-217, Ann Arbor, MI, 2006.
- 6 A multi-time-scale trigger to search for sub millisecond burst phenomena (S. Lebohec, P. R. Jordan, F. Krennrich, D. Carter-Lewis, and G. Sleege). In *Proceedings of ICRC 2001*, page 2756, Hamburg, Germany, 2001. Copernicus Gesellschaft.

Other Refereed Publications

- 1 Designing the Ad Auctions Game for the Trading Agent Competition (with M. P. Wellman). *ICJAI-09 Workshop on Trading Agent Design and Analysis (TADA)*, Pasadena, California, to appear.
- 2 Best-first search for approximate equilibria in empirical games (with M. P. Wellman). *AAAI-07 Workshop on Trading Agent Design and Analysis (TADA)*, Vancouver, Canada, 2007.
- 3 Market efficiency, sales competition, and the bullwhip effect in the TAC SCM tournaments (P. R. Jordan, C. Kiekintveld, J. Miller, and M. P. Wellman). *AAMAS-06 Workshop on Trading Agent Design and Analysis (TADA/AMEC)*, Hakodate, Japan, 2006.
- 4 Empirical game-theoretic analysis of the TAC market games [covers both SCM and Travel] (M. P. Wellman, P. R. Jordan, C. Kiekintveld, J. Miller, and D. M. Reeves). *AAMAS-06 Workshop on Game-Theoretic and Decision-Theoretic Agents*, Hakodate, Japan, 2006.
- 5 Lexnet: A graphical environment for graph-based natural language processing (D. R. Radev, G. Erkan, P. R. Jordan, S. Shen, and J. Sweeney). In *Demo session, COLING-ACL 2006*, Sydney, Australia, July 2006.