

# James R. Wright

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## Education

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|-----------|---|
| 2010–2016 | Doctor of Philosophy (Computer Science)<br>Dissertation: Modeling Human Behavior in Strategic Settings<br>ACM SIGecom Doctoral Dissertation Award (Honorable Mention)<br>University of British Columbia, Canada |
| 2007–2010 | Master of Science (Computer Science)<br>Thesis: Beyond Equilibrium: Predicting Human Behaviour in Normal Form Games<br>University of British Columbia, Canada   |
| 1995–2000 | Bachelor of Science (Computing Science)<br>Simon Fraser University, Canada  |

## Research Interests

My primary research interest is in using data-driven machine learning models to predict human strategic behavior; that is, behavior in interactions where each participant's rewards depend partially on the actions of other participants. My long-term research agenda is to build a general theory for optimally designing algorithms for mediating interactions involving humans or other realistically bounded agents rather than idealized, perfectly rational game theoretic agents.

## Publications

### Competitive Peer-Reviewed Conferences

- 1. Learning in the Repeated Secretary Problem.**  
Daniel G. Goldstein, R. Preston McAfee, Siddarth Suri, and James R. Wright.  
*EC-17: ACM Conference on Economics and Computation*, 2017.  
(Abstract version)
- 2. Deep Learning for Human Strategic Modeling.**  
Jason Hartford, James R. Wright, and Kevin Leyton-Brown.  
*NIPS 2016: Thirtieth Annual Conference on Neural Information Processing Systems*, 2016.  
*Oral presentation.*
- 3. Level-0 Meta-Models for Predicting Human Behavior in Games.**  
James R. Wright and Kevin Leyton-Brown.  
*EC-14: ACM Conference on Economics and Computation*, pages 857–874, 2014.
- 4. Behavioral Game-Theoretic Models: A Bayesian Framework For Parameter Analysis.**  
James R. Wright and Kevin Leyton-Brown.

*AAMAS-2012: International Conference on Autonomous Agents and Multiagent Systems*, pages 921–928, 2012.

*Best student paper (runner up).*

5. **Beyond Equilibrium: Predicting Human Behavior in Normal Form Games.**

James R. Wright and Kevin Leyton-Brown.

*AAAI-10: AAAI Conference on Artificial Intelligence*, pages 901–907, 2010.

### Journals

1. **Predicting Human Behavior in Unrepeated, Simultaneous-Move Games.**

James R. Wright and Kevin Leyton-Brown.

*Games and Economic Behavior*, Volume 106, pages 16–37, November 2017.

(supersedes Wright & Leyton-Brown [2010, 2012])

### Under Submission

1. **Learning in the Repeated Secretary Problem.**

Daniel G. Goldstein, R. Preston McAfee, Siddarth Suri, and James R. Wright.

Under review by *Management Science*.

(Full version of Goldstein et al. [2017])

2. **Models of Level-0 Behavior for Predicting Human Behavior in Games.**

James R. Wright and Kevin Leyton-Brown.

Under review by *Journal of Artificial Intelligence Research*.

(supersedes Wright & Leyton-Brown [2014])

3. **Incentivizing Evaluation via Limited Access to Ground Truth:  
Peer-Prediction Makes Things Worse.**

Xi Alice Gao, James R. Wright, and Kevin Leyton-Brown.

Under review by *Artificial Intelligence Journal*.

(supersedes Gao, Wright, and Leyton-Brown [2016])

### Other Venues

1. **Incentivizing Evaluation via Limited Access to Ground Truth:  
Peer-Prediction Makes Things Worse.**

Xi Alice Gao, James R. Wright, and Kevin Leyton-Brown.

*Workshop on Algorithmic Game Theory and Data Science at ACM Conference on Economics and Computation*, 2016.

2. **Mechanical TA: Partially Automated High-Stakes Peer Grading.**

James R. Wright, Chris Thornton, and Kevin Leyton-Brown.

*SIGCSE-15: ACM Technical Symposium on Computer Science Education*, pages 96–101, 2015.

3. **Linear Solvers for Nonlinear Games: Using Pivoting Algorithms to Find Nash Equilibria in  $n$ -Player Games.**

James R. Wright, Albert Xin Jiang, and Kevin Leyton-Brown.

*SIGecom Exchanges*, volume 10, number 1, pages 9–12, 2011.

**Invited Talks**

- INFORMS      **Deep Learning for Human Strategic Modeling.**  
At *INFORMS Annual Meeting*,  
Houston, Texas. 2017.
- CODE-2017    **Bayesian Models of Learning in the Repeated Secretary Problem.**  
At *2017 Conference on Digital Experimentation (CODE@MIT)*,  
Boston, Massachusetts. 2017.
- EC-17        **Learning in the Repeated Secretary Problem.**  
At *ACM Conference on Economics and Computation (ACM-EC)*,  
Boston, Massachusetts. 2017.
- IFORS        **Deep Learning for Human Strategic Modeling.**  
At *21st Conference of the International Federation of Operations Research Societies*,  
Québec City, Québec. 2017.
- Simons       **Endogenous Cognitive Hierarchy.**  
At *Simons Institute Survey Seminar*,  
Berkeley, California. 2015.
- UBC          **Guest lecture for CMPT 430.**  
University of British Columbia. January, 2015.
- SIGCSE-15    **Mechanical TA: Partially Automated High-Stakes Peer Grading.**  
At *ACM Technical Symposium on Computer Science Education*,  
Kansas City, Missouri. 2015.
- UBC          **Guest lecture for CMPT 532L.**  
University of British Columbia. 2014.
- SFI          **Evaluating Set-Valued Predictions.**  
At *Combining Information Theory and Game Theory*,  
Santa Fe Institute, New Mexico. 2012.
- AAMAS-2012 **Behavioral Game-Theoretic Models: A Bayesian Framework For Parameter Analysis.**  
At *11th International Conference on Autonomous Agents and Multiagent Systems (AAMAS 2012)*,  
Valencia, Spain. 2012.
- GAMES-2012 **Beyond Equilibrium: Predicting Human Behavior in Normal Form Games.**  
At *4th World Congress of the Game Theory Society (GAMES-2012)*,  
Istanbul, Turkey. 2012.
- UBC          **Guest lecture for PSYC 417A.**  
University of British Columbia. February 2012.
- LANL        **Beyond Equilibrium: Predicting Human Behavior in Normal Form Games.**  
At *Design and Control of Systems of Goal-Directed Agents; From Game*

*Theory to Game Engineering*,  
Los Alamos National Laboratory, New Mexico. 2010.

- AAAI-10      **Beyond Equilibrium: Predicting Human Behavior in Normal Form Games.**  
*At Twenty-Fourth AAAI Conference on Artificial Intelligence*,  
Atlanta, Georgia. 2010.
- Google      **Beyond Equilibrium: Predicting Human Behavior in Normal Form Games.**  
At Google,  
Mountain View, California. 2010.
- BQGT      **Beyond Equilibrium: Predicting Human Behavior in Normal Form Games.**  
*At Behavioral and Quantitative Game Theory Conference on Future Directions*,  
Newport Beach, California. 2010.

## Awards

- 2017      **ACM SIGecom Doctoral Dissertation Award (Honorable Mention)**  
ACM Special Interest Group on E-commerce
- 2010–2013      **UGF: University Graduate Fellowship**  
University of British Columbia, Canada  
Declined in 2010–2012 to hold NSERC  
(*Total value: \$80,000*)
- 2010–2012      **NSERC Canada Graduate Scholarship (Ph.D.)**  
Natural Sciences and Engineering Research Council of Canada  
(*Total value: \$105,000*)
- 2008–2009      **NSERC Canada Graduate Scholarship (M.Sc.)**  
Natural Sciences and Engineering Research Council of Canada  
(*Total value: \$17,500*)
- 2000      **Computing Science Graduation Award**  
(for top graduating student in department)  
Simon Fraser University, Canada  
(*Total value: \$600*)
- 1996 and 1999      **Honour Roll**  
Simon Fraser University, Canada
- 1996–2000      **Open Scholarship**  
Simon Fraser University, Canada  
(*Full tuition support*)
- 1995–1996      **Taduesz Specht Memorial Scholarship in Science**  
Simon Fraser University, Canada  
(*Total value: \$3000*)

**Service**

- 2017 Co-organizer: 2017 New York Computer Science and Economics Day (NYCE Day)
- 2015–ongoing Member: NSF PI Forum on Peer Assessment
- 2014–2015 Student representative: Faculty Recruiting Committee
- 2010 Volunteer: AAAI Conference on Artificial Intelligence

**Editorial Activity**

- 2017 Program Committee, Thirty-Second AAAI Conference on Artificial Intelligence.
- 2017 Program Committee, 18th ACM Conference on Economics and Computation.
- 2017 Reviewer, Thirty-First Annual Conference on Neural Information Processing Systems.
- 2017 Reviewer, Journal of Artificial Intelligence Research.
- 2016 Program Committee, Thirty-First AAAI Conference on Artificial Intelligence.
- 2016 Reviewer, *Econometrica*.
- 2016 Reviewer, Journal of Artificial Intelligence Research.
- 2016 Reviewer, 12th Conference on Web and Internet Economics.
- 2016 Reviewer, *Artificial Intelligence Journal*.
- 2016 Reviewer, *Journal of Economic Behavior and Organization*.
- 2015 Reviewer, *Games and Economic Behavior*.
- 2015 Reviewer, Thirtieth AAAI Conference on Artificial Intelligence.
- 2015 Reviewer, *Journal of Economic Behavior and Organization*.
- 2015 Reviewer, *ACM Transactions on Economics and Computation*.
- 2013 Reviewer, *Journal of Machine Learning Research*.
- 2012 Reviewer, *Games and Economic Behavior*.
- 2011 Reviewer, *Artificial Intelligence Journal*.
- 2011 Reviewer, International Joint Conferences on Artificial Intelligence.
- 2011 Reviewer, Twenty-Fifth AAAI Conference on Artificial Intelligence.
- 2010 Reviewer, *Journal of Autonomous Agents and Multiagent Systems*.
- 2009 Reviewer, *ACM Conference on Electronic Commerce*.
- 2009 External Reviewer, International Joint Conferences on Artificial Intelligence.

## Research Employment

- 2016–2018      Postdoctoral Researcher  
Microsoft Research, New York City, USA
- 2015            Visiting Graduate Student  
One of 16 graduate students selected to participate in the Economics and Computation Program, along with 45 faculty.  
Simons Institute, University of California, Berkeley, California
- 2008–2016     Graduate Researcher  
Advisor: Kevin Leyton-Brown  
University of British Columbia, Vancouver, Canada
- 2000            Undergraduate Research Assistant  
Supervisor: Binay Bhattacharya  
Simon Fraser University, Burnaby, Canada
- 1998            Undergraduate Research Assistant  
Supervisors: Jim Delgrande and Arvind Gupta  
Simon Fraser University, Burnaby, Canada

## Teaching

My duties as an instructional assistant for the various massively open online courses listed below included constructing new content (problem sets and exams), cross-checking new video comment for slide typos and misstatements, and monitoring and responding to student questions in online forums.

As an instructional assistant for Computers and Society, I led the design and implementation effort of the Mechanical TA peer grading system. I also constructed exams, and assisted with curriculum development.

As a teaching assistant for Multiagent Systems, I constructed quizzes, exams, and assignments, and assisted in the day-to-day operation of the class.

- 2014            Instructional Assistant, Coursera/University of British Columbia  
Game Theory II (Massively Open Online Course), Kevin Leyton-Brown.
- 2014            Instructional Assistant, Coursera/University of British Columbia  
Game Theory (Massively Open Online Course), Kevin Leyton-Brown.
- 2014            Teaching Assistant, University of British Columbia  
Multiagent Systems (graduates), Kevin Leyton-Brown.
- 2014            Instructional Assistant, University of British Columbia  
Computers and Society (advanced undergraduates), Kevin Leyton-Brown.
- 2013            Instructional Assistant, University of British Columbia  
Game Theory II (Massively Open Online Course), Kevin Leyton-Brown.
- 2013 (twice)    Instructional Assistant, Coursera/University of British Columbia  
Game Theory (Massively Open Online Course), Kevin Leyton-Brown.
- 2013            Teaching Assistant, University of British Columbia  
Multiagent Systems (graduates), Kevin Leyton-Brown.

- 2013            Instructional Assistant, University of British Columbia  
Computers and Society (advanced undergraduates), Kevin Leyton-Brown.
- 2009            Teaching Assistant, University of British Columbia  
Multiagent Systems (graduates), Kevin Leyton-Brown.
- 2008            Teaching Assistant, University of British Columbia  
Computers and Society (advanced undergraduates), Kurt Eiselt.
- 2007            Teaching Assistant, University of British Columbia  
Advanced Software Engineering (advanced undergraduates), Eric Wohlstadter.

Last update: October 10, 2017