

Bryan R. Gibson, Ph.D.

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Objective

Seeking opportunities to utilize machine learning techniques to solve challenging problems with driven colleagues in a stimulating environment.

Education

Ph.D., Computer Science August 2015
University of Wisconsin-Madison, Madison, WI
Thesis: Using Machine Learning to Understand and Influence Human Categorization Behavior
Adviser: Prof. Xiaojin (Jerry) Zhu
Minor: Cognitive Psychology/Statistics

M.S., Computer Science Oct 2011
University of Wisconsin-Madison, Madison, WI

B.A., Psychology May 2001
University of Michigan, Ann Arbor, MI

Technical Skills

Python, Matlab, R, Perl, Java, C#, C++, JavaScript
MongoDB, Solr, Hadoop, MySQL, PostgreSQL, Azure, \LaTeX , TikZ/PGF

Employment

Lead Engineer, Data Science 2015 – present
Russell Reynolds Associates, New York, NY

- Implemented system for retrieving similar job candidates based on unstructured data.
- Improved a system for recommending potential job candidates given a job specification.

Adjunct Assistant Professor 2017 – present
Columbia University, New York, NY

- Designed and taught an introductory Data Science course for first year graduate students.

Data Scientist 2014 – 2015
Voxgov, New York, NY

- Designed algorithm for trending keywords and sources from continuously updated federal documents, including social media, press releases and regulations.
- Implemented topic clustering for document browsing and recommendation.

Research Assistant/Lecturer 2009 – 2014
Prof. Xiaojin (Jerry) Zhu, University of Wisconsin-Madison, Madison, WI

- Led on design, execution and publishing of research projects regarding human categorization behavior.
- Taught graduate level courses of 60+ students (Intro. to AI, Data Structures).

Research Assistant 2007 – 2008
Prof. Dragomir Radev, University of Michigan, Ann Arbor, MI

- Led development and release of major version update of software toolkit.
- Redesigned, managed and analyzed online citation network database.

Publications

Refereed Conference Papers

- Bryan R. Gibson, Timothy T. Rogers, Chuck W. Kalish, and Xiaojin Zhu. What causes category-shifting in human semi-supervised learning? In **Proceedings of the 37th Annual Conference of the Cognitive Science Society (CogSci)**, 2015.
- Xiaojin Zhu, Bryan R. Gibson, and Timothy T. Rogers. Co-training as a human collaboration policy. In **The 25th Conference on Artificial Intelligence (AAAI)**, 2011. (Acceptance rate: $242/975=25\%$).
- Bryan R. Gibson, Xiaojin Zhu, Timothy T. Rogers, Chuck Kalish, and Joseph Harrison. Humans learn using manifolds, reluctantly. In **Advances in Neural Information Processing Systems (NIPS) 24**, 2010. (Selected for plenary presentation: $20/1219=2\%$).
- Xiaojin Zhu, Bryan R. Gibson, Kwang-Sung Jun, Timothy T. Rogers, Joseph Harrison, and Chuck Kalish. Cognitive models of test-item effects in human category learning. In **The 27th International Conference on Machine Learning (ICML)**, 2010. (Acceptance rate: $152/594=26\%$).
- Timothy T. Rogers, Charles Kalish, Bryan R. Gibson, Joseph Harrison, and Xiaojin Zhu. Semi-supervised learning is observed in a speeded but not an unspeeded 2d categorization task. In **Proceedings of the 32nd Annual Conference of the Cognitive Science Society (CogSci)**, 2010. (Poster; Acceptance rate: $599/810=74\%$).
- Xiaojin Zhu, Timothy Rogers, and Bryan Gibson. Human rademacher complexity. In **Advances in Neural Information Processing Systems (NIPS)**, 2009. (Acceptance rate: $263/1105=24\%$).
- Andrew Goldberg, Nathanael Fillmore, David Andrzejewski, Zhiting Xu, Bryan Gibson, and Xiaojin Zhu. May all your wishes come true: A study of wishes and how to recognize them. In **North American Chapter of the Association for Computational Linguistics - Human Language Technologies (NAACL HLT)**, 2009. (Acceptance rate: $75/260=29\%$).
- Steven Bird, Robert Dale, Bonnie Dorr, Bryan Gibson, Mark T. Joseph, Min-Yen Kan, Dongwon Lee, Brett Powley, Dragomir R. Radev, and Yee Fan Tan. The ACL anthology reference corpus: a reference dataset for bibliographic research. In **International Conference on Language Resources and Evaluation (LREC)**, Marrakesh, Morocco, May 2008. (Acceptance rate: $620/900=69\%$).

Refereed Workshop Papers

- Bryan R. Gibson, Kwang-Sung Jun, and Xiaojin Zhu. With a little help from the computer: Hybrid human-machine systems on bandit problems. In **NIPS 2010 Workshop on Computational Social Science and the Wisdom of Crowds**, 2010.

Journal Articles

- Elise Lockwood and Bryan R. Gibson. Combinatorial tasks and outcome listing: Examining productive listing among undergraduate students. **Educational Studies in Mathematics**, in press.
- Bryan R. Gibson, Timothy T. Rogers, and Xiaojin Zhu. Human semi-supervised learning. **Topics in Cognitive Science**, 5:132–172, 2013.
- Arthur Glenberg, Jonathan Willford, Bryan R. Gibson, Andrew Goldberg, and Xiaojin Zhu. Improving reading to improve math. **Scientific Studies in Reading**, 2011.
- Dragomir R. Radev, Mark Joseph, Bryan Gibson, and Pradeep Muthukrishnan. A Bibliometric and Network Analysis of the Field of Computational Linguistics. **Journal of the American Society for Information Science and Technology**, 2009.