Daniel Russo

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Education

Stanford University (Fall 2011-Present)
PhD in Management Science and Engineering
Concentration Area: Operations Research, Advisor: Benjamin Van Roy
GPA: 4.08/4.00

University of Michigan (Fall 2007-Spring 2011)
Bachelor of Science in Economics (*with highest honors*) and Mathematics *(with honors)*

Relevant PhD Coursework: (**Indicates course was taken at Michigan*)

Optimization:	Linear and Conic Programming; Convex Optimization; Dynamic Programming; Advanced Topics in Convex Optimization;
Statistical Learning:	Linear Models*; Machine Learning; Reinforcement Learning;
Probability:	Theory of Probability; Stochastic Systems;
Economic Theory:	Microeconomic Theory I-IV*; Advanced Game Theory*; Topics in Game Theory - Large Markets;

Publications

- D. Russo and B. Van Roy, *Learning to Optimize via Information-Directed Sampling.* Submitted.
- D. Russo and B. Van Roy, *An Information Theoretic Analysis of Thompson Sampling.* Journal of Machine Learning Research (to appear).
- D. Russo and B. Van Roy, *Learning to Optimize via Posterior Sampling.* Mathematics of Operations Research (to appear).
- D. Russo and B. Van Roy, *Eluder Dimension and the Sample Complexity of Optimistic Exploration.* Proceedings of Advances in Neural Information Processing Systems (NIPS), 2013. [**Accepted for a full oral presentation.** 1.4% of submitted papers were given an oral presentation]
- I. Osband, D. Russo and B. Van Roy, *(More) Efficient Reinforcement Learning Via Posterior Sampling.* Proceedings of Advances in Neural Information Processing Systems (NIPS), 2013. [25% acceptance rate]
- N. Arnosti and D. Russo, *Welfare-Improving Cascades and the Effect of Noisy Reviews.* Proceedings of Workshop on Internet & Network Economics (WINE), 2013. [24% acceptance rate]

Work Experience

oDesk, Redwood City, CA (Full Time in Summer 2013, Part Time in Fall 2013)
- Worked on automated skills testing system to evaluate hundreds of thousands of candidates in oDesk's internet labor market.
- Wrote R–scripts for empirical evaluation of test–questions that now run daily.
- Developed algorithm for adaptively serving questions to users and a method for scoring tests.
- New adaptive tests will replace existing oDesk tests in Fall 2013.

Charles River Associates, Boston MA (Summer 2011)
- Worked as an economic consultant in the Competition and Antitrust practice.
- Imported, merged, cleaned, and analyzed datasets in SAS.
- Collaborated regularly with co-workers. Completed various office tasks.

USC Verterbi School of Engineering Summer Internship Program (Summer 2010)
- Studied local algorithms for robot planning and coordination problems under uncertainty.
- My results were included in a conference paper at AAMAS-2011.

Invited Talks

- *Learning to Optimize via Information-Directed Sampling*, Stanford Information Theory Forum, Stanford, CA, May 2014.
- *An Information Theoretic Analysis of Thompson Sampling*, Conference on Information Sciences and Systems (CISS), Princeton, NJ, March 2014.
- *Eluder Dimension and the Sample Complexity of Optimistic Exploration*, Neural Information Processing Systems (NIPS), Tahoe, Nevada, December 2013.
- *Learning to Optimize Via Posterior Sampling*, INFORMS Annual Meeting, Minneapolis, MN, October 2013.

Honors and Awards

- Stanford Graduate Fellowship, 2011-2014
- Ferrando Honors Prize, "Awarded annually to the best senior pursuing honors in Economics," 2011
- Outstanding Achievement in Mathematics Award, 2011
- Phi Beta Kappa & Phi Kappa Phi Honors Societies, 2011 & 2010
- James B. Angell Scholar, 2010; Branstrom Freshman Prize, 2008

Technical Skills

- Knowledge of Mathematical Optimization, Probability and Stochastic Processes, Statistics and Economic Theory.
- Experience with Python, C++, R, Matlab, SAS, Mathematica, LaTeX, and Microsoft Excel.