Daniel Russo

mobile +1-978-660-6221
djrusso@stanford.edu
stanford.edu/~djrusso

Education

Sep 2011 - Present
Ph.D. Candidate, *Stanford University*.
Department of Management Science and Engineering
Concentration area: Operations Research
Supported by a Stanford Graduate Fellowship and an Accel Fellowship
Advisor: Benjamin Van Roy

Sep 2007 - June 2011
Bachelor of Science, *University of Michigan*.
Dual Major in Economics (*with highest honors*) and Mathematics (*with honors*)
Received Ferrando Honors Prize:
"*Awarded annually to the best senior pursuing honors in Economics.*"

Research Interests

Sequential decision-making under uncertainty and statistical machine learning, online optimization, sequential design of experiments, multi-armed bandits, reinforcement learning, ranking and selection.

Publications

- D. Russo and B. Van Roy, *Learning to Optimize via Information-Directed Sampling*. Submitted to Operations Research.
  - First place, INFORMS George Nicholson 2014 student paper competition.
  - Preliminary version to appear in Advances in Neural Information Processing Systems (NIPS), 2014
- 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. Vol. 39, No. 4, pp. 1221-1243, 2014.
- D. Russo and B. Van Roy, *Eluder Dimension and the Sample Complexity of Optimistic Exploration*. Advances in Neural Information Processing Systems (NIPS), 2013.
  - One of 1.4% of submitted papers accepted for a full oral presentation.
- I. Osband, D. Russo and B. Van Roy, *(More) Efficient Reinforcement Learning Via Posterior Sampling*. 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*. Workshop on Internet & Network Economics (WINE), 2013. [24% acceptance rate]

Invited Talks

Dec 2014 **NIPS Bayesian Optimization Workshop**, *invited speaker and panelist.*
Nov 2014 **Microsoft Research Redmond**.
Nov 2014 **INFORMS Annual Meeting**.
Oct 2014 **Cornell ORIE**, *Workshop on Data-Driven Decision Making.*
Oct 2014 **Allerton**, *special invited session showcasing the "Class of 2014".*
May 2014 **Stanford Information Theory Forum**.
Mar 2014 **Conference on Information Sciences and Systems (CISS)**.
Dec 2013 **NIPS Full Oral Presentation**.
Nov 2013 **INFORMS Annual Meeting**.

Selected Work Experience

Summer 2013 & Fall 2013 **oDesk**, *Redwood City, CA.*
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.

Summer 2011 **Charles River Associates**, *Boston, MA.*
Worked as an economic consultant in the Competition and Antitrust practice. Imported, merged, cleaned, and analyzed datasets in SAS.

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

Teaching Experience

Fall 2014 **Teaching Assistant for MS&E 351**, *Ph.D. course on dynamic programming and stochastic control.*

Professional Service

- Reviewer:
  - Stochastic Systems
  - Neural Information Processing Systems
  - Conference on Algorithmic Learning Theory
  - International Conference on Machine Learning
- Student organizer for Stanford OR seminar, Reinforcement Learning Forum, and admitted student visit day.

Technical Skills

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