

Kevin G. Jamieson

- CONTACT 2112 Addison St. Apt. 206 kjamieson@berkeley.edu
Berkeley, CA <http://www.eecs.berkeley.edu/~kjamieson>
- INTERESTS Machine learning, active learning, continuous and discrete optimization, multi-armed bandits, machine learning software systems
- EDUCATION **University of Wisconsin**, Madison, WI USA **March 2015**
Ph.D., Electrical Engineering advised by Robert Nowak
• Thesis: *The Analysis of Adaptive Data Collection Methods for Machine Learning*
- Columbia University**, New York, NY USA **July 2010**
M.S., Electrical Engineering advised by Rui Castro
• Topics in signal processing and machine learning
- University of Washington**, Seattle, WA USA **June 2009**
B.S., Electrical Engineering advised by Maya Gupta
• Specialization in digital signal processing with minors in mathematics and physics
- RESEARCH **U.C. Berkeley Electrical Engineering and Computer Sciences Dept.**, Berkeley, CA **2015-Current**
Postdoctoral researcher in the AMP lab advised by Ben Recht
• Developing state-of-the-art theory and practical, web-scale implementations for adaptive data collection problems
- Google**, Mountain View, CA **Fall 2016-Current**
Research assistant in the Google Brain group supervised by Moritz Hardt
• Implementing my hyperparameter tuning research in their infrastructure, scaling the algorithm to train deep networks on thousands of GPUs simultaneously.
- U. Wisconsin-Madison Electrical Engineering Dept.**, Madison, WI **2010-2015**
Research assistant advised by Robert Nowak
• Thesis work ranged from theory, to practical algorithms with guarantees, to open-source machine learning systems in the areas of multi-armed bandit problems, active learning, stochastic optimization, and sequential testing in statistics.
- Columbia U. Electrical Engineering Dept.**, New York, NY **2009-2010**
Research assistant advised by Rui Castro
• Developed algorithms with guarantees for one-look-ahead active feature selection and researched the applications of adaptive sampling to similarity-based learning
- U. Washington Electrical Engineering Dept.**, Seattle, WA **Summer 2009**
Research intern advised by Maya Gupta
• Developed methods to train Support Vector Machines (SVM) given clean training data that would be used in a noisy environment.
- U. Washington Applied Physics Lab**, Seattle, WA **2008-2009**
Research intern advised by Bob Miyamoto, David Krout, Maya Gupta
• Investigated sonar tracking algorithms that incorporate environmental information and classification to suppress false alarms

AWARDS

- Harold A Peterson Best Dissertation Award 2016
- Sandia National Labs Graduate Research Fellowship 2013-2015
- Innovative Signal Analysis, Inc. Fellowship 2011
- Claude and Dora Richardson Wisconsin Distinguished Graduate Fellowship 2010
- Mary Gates Scholarship 2009
- Best EE Capstone Design Project of 2008: “Song Classification”

PROJECTS

New Yorker Caption Contest *Lead developer, weekly experimenter* **2015-Current**

- Each week a cartoon is printed in the back of *The New Yorker* and readers submit about 5,000 candidate captions in response. Readers are encouraged to vote on captions at newyorker.com/cartoons/vote. *The New Yorker* proxies to a NEXT server (see below) where I choose active learning algorithms to evaluate on tens of thousands of unique visitors accounting for over a half-million ratings each week.

NEXT *Founder, lead developer of several graduate students*

2014-Current

- NEXT is an open-source machine learning system that runs in the cloud and makes it easy to develop, evaluate, and apply active learning in real-world applications.
- Frequent users include active learning researchers, mobile applications, cognitive psychologists, sociologists, and *The New Yorker*. See <http://nextml.org> for more.

Beer Mapper *Former lead developer*

2013-2015

- Beer Mapper is a practical implementation of my theoretical active ranking work on an iPhone/iPad available on the app store.
- Rob Nowak and I licensed the technology to the tech startup Savvo who is now leading the development of the app. See <http://www.beermapperapp.com> for more.

SELECTED

PUBLICATIONS “Hyperband: A Novel Bandit-Based Approach to Hyperparameter Optimization,” Lisha Li, Kevin Jamieson, Giulia DeSalvo, Afshin Rostamizadeh, Ameet Talwalkar, *Preprint*, 2016.

“The Power of Adaptivity in Identifying Statistical Alternatives,” Kevin Jamieson, Daniel Haas, Ben Recht, *Neural Information Processing Systems (NIPS)*, 2016.

“Finite Sample Prediction and Recovery Bounds for Ordinal Embedding,” Lalit Jain, Kevin Jamieson, Robert Nowak, *Neural Information Processing Systems (NIPS)*, 2016.

“Best-of-K Bandits,” Max Simchowitz, Kevin Jamieson, and Benjamin Recht, *Conference on Learning Theory (COLT)*, 2016.

“Non-stochastic Best Arm Identification and Hyperparameter Optimization,” Kevin Jamieson and Ameet Talwalkar, *AISTATS*, 2016.

“NEXT: A System for Real-World Development, Evaluation, and Application of Active Learning,” Kevin Jamieson, Lalit Jain, Chris Fernandez, Nick Glattard, Robert Nowak, *Neural Information Processing Systems (NIPS)*, 2015.

“Sparse Dueling Bandits,” Kevin Jamieson, Sumeet Katariya, Atul Deshpande, and Robert Nowak, *AISTATS*, 2015.

“Best-arm identification algorithms for multi-armed bandits in the fixed confidence setting,” Kevin Jamieson and Robert Nowak, *Conference on Information Sciences and Systems (CISS)*, 2014.

“lil’ UCB : An Optimal Exploration Algorithm for Multi-Armed Bandits,” Kevin Jamieson, Matt Malloy, Robert Nowak, and Sebastien Bubeck, *Conference on Learning Theory (COLT)*, 2014.

“Query Complexity of Derivative-Free Optimization,” Kevin Jamieson, Robert Nowak and Ben Recht *Neural Information Processing Systems (NIPS)*, 2012.

“Active Ranking using Pairwise Comparisons,” Kevin Jamieson and Robert Nowak, *Neural Information Processing Systems (NIPS)*, 2011.

“Low-Dimensional Embedding using Adaptively Selected Ordinal Data” Kevin Jamieson and Robert Nowak, *Allerton*, 2011.

A full publication list available at <http://www.cs.berkeley.edu/~kjamieson>. References and academic transcripts available upon request.