# Ben London

Machine Learning Researcher
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## Research Interests

My research focuses on machine learning algorithms and theory, with applications in: structured prediction; graphical models; statistical relational learning; knowledge bases; information retrieval; deep learning; representation learning; recommender systems; and offline policy optimization.

## Employment

Amazon Music ML, *Sr. Machine Learning Scientist*, 2018 – present.

Amazon Core ML, Seattle, *Machine Learning Scientist*, 2015 – 2018.

University of Maryland, LINQS Group, *Graduate Research Assistant*, 2011 – 2015.

Google Research, New York, *Research Intern*, Summer 2014.

Sentrana, Inc., *Analytic Software Engineer*, 2008 – 2010.

Anthrotronix, Inc., *Software Engineer*, 2008 – 2008.

Control Group, Inc., *Software Engineering Intern*, Summer 2007.

## Education

Ph.D. Computer Science, University of Maryland College Park, 2010 – 2015. Advisor: Lise Getoor.

M.S. Computer Science, Columbia University, 2006 – 2008. Advisor: Tony Jebara.

B.M. Music Technology, New York University, 1997 – 2001, *magna cum laude*.

## Publications

### *Journal Articles*

O. Meshi, **B. London**, A. Weller, D. Sontag. Train and Test Tightness of LP Relaxations in Structured Prediction. *JMLR*, 2019.

**B. London**, B. Huang, L. Getoor. Stability and Generalization in Structured Prediction. *JMLR*, 2016.

G. Namata, **B. London**, L. Getoor. Collective Graph Identification. *ACM Transactions on Knowledge Discovery from Data*, 2015.

### *Conference Proceedings*

**B. London**. A PAC-Bayesian Analysis of Randomized Learning with Application to Stochastic Gradient Descent. *NeurIPS*, 2017.

J. Pujara, **B. London**, L. Getoor. Budgeted Online Collective Classification. *UAI*, 2015.

**B. London**, B. Huang, L. Getoor. The Benefits of Learning with Strongly Convex Approximate Inference. *ICML*, 2015. (**Selected for oral presentation**)

**B. London**, B. Huang, B. Taskar, L. Getoor. PAC-Bayesian Collective Stability. *AISTATS*, 2014.

S. Bach, B. Huang, **B. London**, L. Getoor. Hinge-loss Markov Random Fields: Convex Inference for Structured Prediction. *UAI*, 2013.

**B. London**, B. Huang, B. Taskar, L. Getoor. Collective Stability in Structured Prediction: Generalization from One Example. *ICML*, 2013. (**Selected for oral presentation**)

## *Workshop Proceedings*

**B. London**, T. Sandler. Bayesian Counterfactual Risk Minimization. *ICML Workshop on CausalML*, 2018.

**B. London**. Generalization Bounds for Randomized Learning with Application to Stochastic Gradient Descent. *NeurIPS Workshop on Optimizing the Optimizers*, 2016.

**B. London**, O. Meshi, A. Weller. Bounding the Integrality Distance of LP Relaxations for Structured Prediction. *NeurIPS Workshop on Optimization for Machine Learning*, 2016.

**B. London**, A. Schwing. Generative Adversarial Structured Networks. *NeurIPS Workshop on Adversarial Training*, 2016.

**B. London**, B. Huang, L. Getoor. On the Strong Convexity of Variational Inference. *NeurIPS Workshop on Advances in Variational Inference*, 2014.

**B. London**, B. Huang, B. Taskar, L. Getoor. PAC-Bayesian Generalization Bounds for Randomized Structured Prediction. *NeurIPS Workshop on Perturbations, Optimization and Statistics*, 2013. (**Selected for oral presentation**)

**B. London**, S. Khamis, S. Bach, B. Huang, L. Getoor, L. Davis. Collective Activity Detection using Hinge-loss Markov Random Fields. *CVPR Workshop on Structure Prediction: Tractability, Learning and Inference*, 2013. (**Selected for oral presentation**)

B. Huang, **B. London**, B. Taskar, L. Getoor. Empirical Analysis of Collective Stability. *ICML Workshop on Structured Learning (SLG)*, 2013.

**B. London**, B. Huang, L. Getoor. Improved Generalization Bounds for Large-scale Structured Prediction. *NeurIPS Workshop on Algorithmic and Statistical Approaches for Large Social Networks*, 2012.

**B. London**, T. Rekatsinas, B. Huang, L. Getoor. Multi-relational Weighted Tensor Decomposition. *NeurIPS Workshop on Spectral Learning*, 2012.

G. Namata, **B. London**, L. Getoor, B. Huang. Query-driven Active Surveying for Collective Classification. *ICML Workshop on Mining and Learning with Graphs*, 2012. (**Selected for oral presentation**)

J. Pujara, **B. London**, L. Getoor. Reducing Label Cost by Combining Feature Labels and Crowdsourcing. *ICML Workshop on Combining Label Strategies to Reduce Label Cost*, 2011.

## *Book Chapters*

**B. London**, L. Getoor. Collective Classification of Network Data. *Data Classification: Algorithms and Applications*, Charu Aggarwal. CRC Press, 2013.

## *Technical Reports*

**B. London**, T. Rekatsinas, B. Huang, L. Getoor. Multi-relational Learning Using Weighted Tensor Decomposition with Modular Loss. `http://arxiv.org/abs/1303.1733`, 2013.

**B. London**, B. Huang, L. Getoor. Graph-based Generalization Bounds for Learning Binary Relations. `http://arxiv.org/abs/1302.5348`, 2013.

## Teaching

Introduction to Machine Learning at Amazon, *Instructor*, 2017.

Artificial Intelligence, *Teaching Assistant*, Spring 2013. Instructor: Lise Getoor.

Machine Learning, *Teaching Assistant*, Fall 2010. Instructor: Lise Getoor.

## Professional Service

Reviewed for: Algorithmic Learning Theory (ALT); Conference on Learning Theory (COLT); International Conference on Machine Learning (ICML); International Joint Conference on Artificial Intelligence (IJCAI); Journal of Machine Learning Research (JMLR); Neural Information Processing Systems (NeurIPS); Transactions of Knowledge Discovery from Data (TKDD); Uncertainty in Artificial Intelligence (UAI)

Review panel member for the National Science Foundation (NSF)

Program Chair for the Amazon Machine Learning Conference (AMLC), 2019

Organizer of the AMLC Workshop on Recommendation, 2018

Organizer of the AMLC Workshop on Deep Learning, 2017

## Awards and Honors

NeurIPS Best Reviewer, 2015