Aaron Joseph Steriade Schein

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Education

Ph.D. Computer Science, 2019.
University of Massachusetts Amherst.
Thesis: *Allocative Poisson Factorization for Computational Social Science*
Advisor: Hanna Wallach.

M.S. Computer Science, 2017.
University of Massachusetts Amherst.

M.A. Linguistics, 2012.
University of Massachusetts Amherst.
Thesis: *What's in a Letter?*
Advisor: Brian Dillon.

B.A. Linguistics, 2010.
University of Massachusetts Amherst.

B.A. Political Science, 2010.
University of Massachusetts Amherst.
Thesis: *Iran's Afghanistan Policy.*
Advisor: Vincent Ferraro.

Professional Experience

Postdoctoral Fellow, January 2019–present.
Data Science Institute, Columbia University.
Supervisor: David Blei.

Graduate Research Assistant, September 2012–2018.
College of Information and Computer Sciences, University of Massachusetts Amherst.
Advisor: Hanna Wallach.

Research Intern, Summer 2015 and Summer 2014.
Microsoft Research, New York City, NY.
Supervisor: Hanna Wallach.

Software Engineering Intern, Summer 2013.
Google, Mountain View, CA.
Supervisor: Tania Bedrax-Weiss.

Artificial Intelligence Engineer, May 2011–May 2013.
MITRE Corporation, McLean, VA.
Supervisor: Karine Megerdoomian.

Teaching Experience

Instructor, CICS 191 FYS "Philosophy of A.I. & Theories of Consciousness", Fall 2016.
College of Information and Computer Sciences, University of Massachusetts Amherst.

Guest Lecturer (1 lecture), CICS 590N "Intro to Numerical Computing with Python", Fall 2016.
College of Information and Computer Sciences, University of Massachusetts Amherst.

Teaching Assistant, LING 414 "Phonetics", Fall 2009.
Department of Linguistics, University of Massachusetts Amherst. Instructor: John Kingston.

Peer-Reviewed Conference Publications

A. Schein, S. Linderman, M. Zhou, D. M. Blei, and H. M. Wallach. Poisson-randomized gamma dynamical systems. In *Advances in Neural Information Processing Systems Thirty-Two (NeurIPS)*, 2019.

A. Schein, Z. Wu, A. Schofield, M. Zhou, and H. Wallach. Locally private Bayesian inference for count models. In *Proceedings of the Thirty-Sixth International Conference on Machine Learning (ICML)*, 2019.

A. Schein, M. Zhou, and H. Wallach. Poisson–gamma dynamical systems. In *Advances in Neural Information Processing Systems Twenty-Nine (NeurIPS)*, 2016. Selected for a full oral presentation (among 8% of accepted papers).

A. Schein, M. Zhou, D. Blei, and H. Wallach. Bayesian Poisson Tucker decomposition for learning the structure of international relations. In *Proceedings of the Thirty-Third International Conference on Machine Learning (ICML)*, 2016.

A. Schein, J. Paisley, D. Blei, and H. Wallach. Bayesian Poisson tensor factorization for inferring multilateral relations from sparse dyadic event counts. In *Proceedings of the Twenty-First ACM SIGKDD Conference on Knowledge Discovery and Data Mining (KDD)*, 2015.

K. Miller, E. Richardson, S. McLeod, J. Finley, and **A. Schein**. International multicultural name matching competition: Design, execution, results, and lessons learned. In *Proceedings of the Eighth International Conference on Language Resources and Evaluation (LREC)*, 2012.

Peer-Reviewed Workshop Publications

A. Schofield, **A. Schein**, Z. Wu, M. Zhou, and H. Wallach. Toward practical and locally private inference of topic models. In *New Directions in Analyzing Text as Data (TADA)*, 2018.

A. Schofield, **A. Schein**, Z. Wu, M. Zhou, and H. Wallach. A variational inference approach for locally private inference of Poisson factorization models. In *Advances in Approximate Bayesian Inference (AABI)*, 2018.

A. Schein, Z. Wu, M. Zhou, and H. Wallach. Locally private Bayesian inference for count models. In *Advances in Approximate Bayesian Inference (AABI)*, 2017.

B. Kim, **A. Schein**, B. Desmarais, M., and H. M. Wallach. A network model for dynamic textual communications with application to government email corpora. In *New Directions in Analyzing Text as Data (TADA)*, 2017.

A. Schein, P. Flaherty, M. Zhou, D. Sheldon, and H. Wallach. Beta Tucker decomposition for DNA methylation data. In *Advances in Neural Information Processing Systems (NeurIPS) Workshop on "Computational Biology"*, 2016. Selected for oral presentation (among 20% of accepted papers).

A. Schein, M. Zhou, D. Blei, and H. Wallach. Modeling topic-partitioned assortativity and disassortativity in dyadic event data. In *Advances in Neural Information Processing Systems (NeurIPS) Workshop on "Networks in the Social and Information Sciences"*, 2015. Winner of Best Student Poster award (prize: $400).

A. Schein, J. Paisley, D. Blei, and H. Wallach. Inferring polyadic events with Poisson tensor factorization. In *Advances in Neural Information Processing Systems (NeurIPS) Workshop on "From Graphs to Rich Data"*, 2014.

A. Schein, J. Moore, and H. Wallach. Inferring multilateral relations from dynamic pairwise interactions. In *Advances in Neural Information Processing Systems (NeurIPS) Workshop on "Frontiers of Network Analysis: Methods, Models, and Applications"*, 2013.

Talks and Poster Presentations

"Locally private Bayesian inference for count models" (invited talk). Georgia Tech, July 2018.

"Locally private Bayesian inference for count models" (invited talk). Google Brain, June 2018.

"Poisson–gamma dynamical systems" (invited talk). Google Brain, January 2017.

"Dynamic Bayesian Poisson tensor factorization" (poster). *Tenth Conference on Bayesian Nonparametrics*, 2015.

"Characterizing Structure in Anomalous Event Data" (invited talk). *Machine Learning and Friends Lunch*, Department of Computer Science, University of Massachusetts Amherst, September 2013.

"The Infinite Multilateral Event Model: Characterizing Structure in Anomalous Observations" (poster). *PhD Intern Symposium*, GOOGLE, July 2013.

"What's in a Letter?" (invited talk). *Data Mining Symposium*, MITRE CORPORATION, August 2012.

"Are Your Ngrams Zipfian Distributed?" (invited talk). *Human Language Technology Symposium*, MITRE CORPORATION, August 2012.

Professional Service

Organizer, NeurIPS 2016 Workshop on "Practical Bayesian Nonparametrics" and NeurIPS 2015 Workshop on "Bayesian Nonparametrics: The Next Generation".

Reviewer/PC member for conferences: AISTATS 2015–2020, NeurIPS 2015–2019, ICML 2015–2019, IJCAI 2015, AAAI 2015.

Reviewer for journals: PLOS Computational Biology 2016, Journal of Machine Learning Research (JMLR), Transactions on Knowledge and Data Engineering (TKDE), Physical Review E, American Journal of Political Science (AJPS), Statistics and Computing.

Selected Awards and Honors

DSI Post-Doctoral Fellowship, 2019–present.
Data Science Institute, Columbia University.
First prize in cafe-naming contest, November 2015.
College of Information and Computer Sciences, University of Massachusetts Amherst.
Winning name: *Snack Overflow*. Prize: A cup of coffee (unclaimed, as of yet).