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.
Mentors: David Blei and Donald P. Green.

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.
Supervisors: Karine Megerdoomian and James Davidson.

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, COMS E6998 "Machine Learning with Probabilistic Programming", Fall 2020.
Department of Computer Science, Columbia University.

Guest Lecturer, 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.

Preprints and papers under review

A. Schein, K. Vafa, D. Sridhar, V. Veitch, J. Quinn, J. Moffet, D. Blei, and D. P. Green. A Digital Field Experiment Reveals Large Effects of Friend-to-Friend Texting on Voter Turnout. *SSRN 3696179*, 2020. Under review at The Web Conference (WWW).

Journal articles

S. He[*], **A. Schein**[*], V. Sarsani, and P. Flaherty. A Bayesian nonparametric model for inferring subclonal populations from structured DNA sequencing data. To appear in *Annals of Applied Statistics*.
[*] = Equal contribution.

Refereed 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 (NeurIPS)*, 2019.

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

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

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

A. Schein, J. Paisley, D. M. Blei, and H. M. Wallach. Bayesian Poisson tensor factorization for inferring multilateral relations from sparse dyadic event counts. In *Proceedings of the 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 International Conference on Language Resources and Evaluation (LREC)*, 2012.

Refereed workshop publications

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

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

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

A. Schein, M. Zhou, D. M. Blei, and H. M. 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. M. Blei, and H. M. 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. M. Wallach. Inferring multilateral relations from dynamic pairwise interactions. *NeurIPS Workshop on "Frontiers of Network Analysis"*, 2013.

Non-archival conference abstracts and presentations

A. Schein, M. Zhou, D. Blei, and H. M. Wallach. An experimental study of friend-to-friend GOTV text messages in the 2018 midterm elections. *International Conference on Computational Social Science (IC2S2)*, 2020. Winner of the Best Presentation award.

A. Schein, Z. Wu, A. Schofield, M. Zhou, and H. M. Wallach. Locally private Bayesian inference for count models. *International Conference on Computational and Methodological Statistics*, 2019.

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

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

A. Schein, M. Zhou, D. Blei, and H. M. Wallach. Modeling international relations with Bayesian Poisson Tucker decomposition. *International Conference on Computational Social Science (IC2S2)*, 2016.

A. Schein, J. Paisley, M. Zhou, D. M. Blei, and H. M. Wallach. Dynamic Bayesian Poisson tensor factorization. *Conference on Bayesian Nonparametrics*, 2015

Newspaper articles

A. Schein. Joe Biden's 'virtual ground game' gamble seems to have paid off. *Financial Times Opinion*, November 8, 2020.

Professional Service

Co-organizer of NeurIPS 2020 Workshop "I Can't Believe It's Not Better!".

Co-organizer of NeurIPS 2016 Workshop "Practical Bayesian Nonparametrics".

Co-organizer of NeurIPS 2015 Workshop "Bayesian Nonparametrics: The Next Generation".

Reviewer/PC member for conferences: AISTATS 2015–2020, NeurIPS 2015–2020, ICML 2015–2020, 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, IEEE Transactions on Signal Processing

Selected Awards and Honors

Data Science Post-Doctoral Fellowship, 2019–present.
Data Science Institute, Columbia University.

Best Oral Presentation, July 2020.
6th International Conference on Computational Social Science (IC2S2).

NeurIPS Best Reviewer Award, 2019.
Top 10% of reviewers at NeurIPS 2019. Prize: free registration.

Best Student Poster Award, December 2015.
NeurIPS workshop on Networks in the Social and Information Systems. Prize: $400.

First prize in cafe-naming contest, November 2015.
College of Information and Computer Sciences, University of Massachusetts Amherst.
Winning name: *Snack Overflow*. Prize: free cup of coffee.