Christopher V. Aicher

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Education

PhD in Statistics, University of Washington. **Current**
M.S. in Applied Mathematics, University of Colorado at Boulder. **May 2014**
B.S. in Applied Mathematics, University of Colorado at Boulder. **May 2014**
Minor in Computer Science GPA: 3.99/4.00

Selected Publications

C. Aicher, N.J. Foti and E.B. Fox, "Adaptively Truncating Backpropgation Through Time to Control Gradient Bias". *Uncertainty in Artificial Intelligence* (2019). (arxiv:1905.07473)

C. Aicher, S. Putcha, C. Nemeth, P. Fearnhead and E.B. Fox, "Stochastic Gradient MCMC for State Space Models". *Preprint* (2019). (arxiv:1901.10568)

C. Aicher, Y.A. Ma, N.J. Foti and E.B. Fox, "Stochastic Gradient MCMC for State Space Models". *SIAM Journal on Mathematics of Data Science, Under Review.* (arxiv:1810.09098)

C. Aicher and E.B. Fox, "Approximate Collapsed Gibbs Clustering with Expectation Propagation." *KDD* Workshop: Mining and Learning from Time Series (2016). (arxiv:1807.07621)

C. Aicher, A.Z. Jacobs and A. Clauset, "Learning Latent Block Structure in Weighted Networks." *Journal of Complex Networks*, 3(2) 221-248 (2015). (arxiv:1404.0431)

Full publication list and code available at https://aicherc.github.io.

Experience

Graduate Research Assistant, University of Washington, **Jan 2015 - Current**
- Working with Professor Emily Fox to develop scalable approximate inference procedures (e.g. stochastic gradient methods) for sequential data models, such as state space models and recurrent neural networks.

Research Intern, MSR, **Jun 2017 - Sept 2017**
- Worked with Consumer Data & Analytics team on short-form text clustering.
- Developed an on-line feature extractor using RNNs and non-parametric clustering.
- Presented work at internal "Machine Learning, AI, Data Science 2017" conference.

Research Scientist Intern, Amazon, **Jun 2016 - Sept 2016**
- Worked with the Kindle devices demand planning team on forecasting sales.
- Developed a custom R package for prototyping new models.
- Tested and integrated quantile random forests to improve short-term forecasting

Machine Learning Intern, Dato (now Turi), **Jun 2015 - Sept 2015**
- Researched, developed, and shipped a new itemset mining toolkit as part of GraphLab Create's machine learning applications library.

Undergraduate Research Assistant, University of Colorado, **Jan 2012 - May 2014**
- Collaborated with Professor Aaron Clauset on statistical learning in networks.
- Developed a novel weighted version of the stochastic block model and variational inference algorithm for unsupervised community detection.

Skills & Coursework

Programming Languages:
- Python, R, MATLAB, C++, SQL

Statistics Related Coursework:
- Stochastic Processes, Probability Theory, Mathematical Statistics, Optimization

Computer Science Related Coursework:
- Machine Learning, Algorithms, Data Structures, Database Systems