Andrew Cron

3217 Appling Way
Durham, NC 27703

Email: andrew.j.cron@gmail.com
Phone: (919) 408-1941

Education

Duke University
Ph.D. Statistics, 2012

University of South Carolina
B.S. Statistics-Mathematics, 2009

Experience & Employment

VP of Science, *October 2018 to Current*
84.51°
Leads research and development for predictive modeling applied at all levels of the business. Initiatives include scalable forecasting solutions for supply chain, price optimization, and financial modeling.

Principal Data Scientist, *February 2017 to October 2018*
Citadel, LLC
Developed alpha generating predictive models from alternative data sources using NLP, Deep Learning, and time series modeling. Lead research and development of multiple tools delivering quality assurance, robust modeling infrastructure, and interactive forecasting applications.

Senior Research Scientist, *August 2015 to February 2017*
84.51°
Created a predictive modeling framework for massive retail forecasting problems. This included researching and implementing new modeling approaches in high dimensional time series and managing collaborations with academia.

CTO, *March 2014 to August 2015*
Weinraub Analytics
Managed implementation and research for quantitative financial modeling of US equities using deep learning and time series models. Developed end-to-end financial modeling infrastructure including data pipelines, high performance backtesting tool suite, automatic trading algorithms, interactive dashboards, hardware procurement and maintenance, and managing contractors.

Data Scientist, *December 2012 to March 2014*
MaxPoint
Developed and implemented statistical and machine learning methods on massive datasets to deliver cutting-edge targeted advertising solutions using hadoop and high

performance computing frameworks.

Research Assistant, *Fall 2009 to Fall 2012*
Duke University Department of Statistics
Used GPU technology to address mixture model fitting issues on massive datasets in flow cytometry. Developed an informative Bayesian approach to metabolite detection in mass spectrometry applications for metabolomics. Created novel methods for flexible, sparse covariance modeling on large datasets.

Computing

Python, C/C++, R, Javascript, HTML/CSS, SQL, Spark, Bash/Unix Utilities

Additional Experience

Adjunct Faculty Member, Department of Statistics, Duke University,*2015-2018*

Founding Section Chair, Junior ISBA, *2012-2014*

Guest Editor, XRDS Crossroads: ACM Magazine for Students, *2012*

Research Intern, IBM Watson Research Center, *Summer 2012*

Research Intern, Yahoo! Labs, *Summer 2011*

Papers

A. Cron and M. West. "Models of random sparse eigenmatrices matrices and Bayesian analysis of multivariate structure." Statistical Analysis for High Dimensional Data (2016): 123-154.
http://www.stat.duke.edu/~mw/MWextrapubs/CronWest2016.pdf

A. Cron, C. Gouttefangeas, J. Frelinger, L. Lin, S. K. Singh, C. M. Britten, M. J. P. Welters, S. H. van der Burg, M. West, C. Chan. "Hierarchical Modeling for Rare Event Detection and Cell Subset Alignment across Flow Cytometry Samples." PLOS Computational Biology 9 (2013): e1003130.
http://www.ploscompbiol.org/article/info:doi/10.1371/journal.pcbi.1003130

A. Cron, L. Zhang, and D. Agarwal. "Collaborative filtering for massive multinomial data." Journal of Applied Statistics (2013): 1-15.
https://www.tandfonline.com/doi/abs/10.1080/02664763.2013.847072

W. McKinney and A. Cron. "gpustats: GPU Library for Statistical Computing" *SciPy Conference*, Austin, TX, July 2011. The proceedings of the 10th Python in Science Conference.
https://www.researchgate.net/publication/265012441_gpustats_GPU_Library_for_Statistical_Computing_in_Python

A. Cron and M. West. "Efficient Classification-Based Relabeling in Mixture Models." The American Statistician 65 (2011): 16-20.
https://www.jstor.org/stable/23020232

M. Suchard, Q. Wang, C. Chan, J. Frelinger, A. Cron and M. West. "Understanding GPU programming for statistical computation: Studies in massively parallel massive mixtures." Journal of Computational and Graphical Statistics 19 (2010): 419-438
https://www.ncbi.nlm.nih.gov/pubmed/20877443