Cora Allen-Coleman

Statistics PhD Candidate

Statistician with 6 years of theoretical and applied statistics experience and 2 years of software development experience. Currently developing software in Julia for efficient search & model comparison in complex network space.

Experience

2018-03 - present
Research Assistant with Professor Cécile Ané
University of Wisconsin–Madison Statistics
Julia: Developing software in Julia for statistical estimation of gene flow in phylogenetic networks. Improving the efficiency of search & model comparison in network space, taking the complexity of a full likelihood calculation from exponential to linear time.
github.com/crsl4/PhyloNetworks.jl

2016-05 - present
Research Assistant with Professor Ron Gangnon
University of Wisconsin-Madison Statistics
R: Developing ClusterRank software for mixture models clustering & ranking in R. We use inverse-variance weighted ranking and mixture models to produce simultaneous complete, optimal rankings with clustering, error estimates, and visualizations.
github.com/coraallencoleman/ClusterRank

2018-09 - 2018-12
Teaching Assistant, Computational Tools for Data Analytics
University of Wisconsin–Madison Statistics
Code review & pair programming to teach graduate students Bash scripting, Python, & Julia.

2016-12 - 2017-12
Lead Database Administrator & Analyst
Teaching Assistants Association
Shiny: Developed & managed a Shiny web application for large-scale data management, mobile data entry, & automated statistical summaries.

2016-05 - present
Applied Statistical Collaboration with Dr. Amy Trentham-Dietz
University of Wisconsin-Madison Dept of Epidemiology
Lead analyst for a spatial analysis of breast cancer incidence and survival using generalized additive models, multiple imputation, and variable width smoothing techniques. *Paper in preparation*

2018-02 - present
Applied Statistical Collaboration with Dr. Molly Carnes
University of Wisconsin Dept of Medicine
Lead analyst for a study of UW's MD/PhD training program. Used a variety of multivariate generalized linear mixed effects models and creative visualizations to answer a diverse set of applied questions. *Paper under review at Academic Medicine*

2012-06 - 2015-08
Research Assistant
Harvard Medical School & Brigham and Women's Hospital
R & SAS: Large-scale data management & statistical analysis using SAS & R.

Education

2015-09 - present
University of Wisconsin-Madison, Statistics PhD
expected May 2020

Personal Info

Location
Madison, WI

Phone
608-239-4068

E-mail
allencoleman@wisc.edu

GitHub
github.com/coraallencoleman

LinkedIn
linkedin.com/in/cora-allen-coleman/

Skills

R
●●●●○

Julia
●●●●○

Java
●●●○○

Python
●●●○○

Bash
●●●○○

Courses

Intro to Programming

Data Structures

Statistical Computing

Computational Tools for Data Analytics

Data Analysis in R

Computational Network Methods

Advanced Probability

Mathematical Statistics (3 semesters)

Study Design & Regression (2 semesters)

Applied Statistical Consulting

Multilevel Models

Graphical Models

2008-09 -	Oberlin College, Psychology BA
2012-05	high honors

Peer-reviewed journal articles

1 Fischer MA, **Allen-Coleman C,** Farrell SF, Schneeweiss S. Stakeholder assessment of comparative effectiveness research needs for Medicaid populations. *Journal of Comparative Effectiveness Research.* 2015 Sept 21.

2 Bateman BT, Huybrechts KF, Maeda A, Desai RJ, Patorno E, Seely EW, Ecker JL, **Allen-Coleman C**, Mogun H, Hernandez-Diaz S, Fischer MA. Calcium channel blocker exposure in late pregnancy and the risk of neonatal seizures: A cohort study. *Obstetrics and Gynecology*. 2015 Aug; 126(2): 271-8.

3 Bateman BT, Hernandez-Diaz S, Fischer MA, Seely EW, Ecker JL, Franklin JM, Desai RJ, **Allen-Coleman C**, Mogun H, Avorn J, Huybrechts KF. Statins and congenital malformations: a cohort study. *BMJ.* 2015 Mar 17;350:h1035.

4 Polinski JM, Kesselheim AS, Frolkis JP, Wescott P, **Allen-Coleman C,** Fischer MA. A matter of trust: Patient barriers to primary medication adherence. *Health Education Research.* 2014; 29: 755-63.

Awards

2017-07	National Institutes of Health Data Science Traineeship
2015-09	National Institutes of Health Biostatistics Traineeship
2012-03	Leah Freed Memorial Prize for Honors Thesis Research
2012-01	Jerome Davis Prize for Social Science Thesis Research