

# Samantha C. Tyner, PhD

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## CONTACT INFORMATION

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## EDUCATION

**Iowa State University**, Ames, Iowa, USA

Ph.D., Statistics, December 2017  
Advisor: Heike Hofmann  
M.S., Statistics, May 2015  
Cumulative GPA: 3.63/4.00

**Augustana College**, Rock Island, Illinois, USA

B.A. *summa cum laude* in Mathematics, Economics, and French, May 2012  
Cumulative GPA: 3.93/4.00

## HONORS & AWARDS

*Winner, Statistical Computing and Statistical Graphics Sections of the ASA 2016 Student Paper Competition* for “Using the geomnet Package: Visualizing African Slave Trade, 1514 - 1866”  
*Runner up, 2015 Young Statisticians Writing Competition, by the Young Statisticians Section of the Royal Statistical Society* for “The Joy of Clustering (with Bob Ross)”  
*Alumni Fellowship*, Dept. of Statistics, Iowa State University, Awarded Fall 2012  
*Phi Beta Kappa*, Inducted May 2012  
*Pi Mu Epsilon*, Inducted May 2011  
*Omicron Delta Kappa*, Inducted December 2011  
*Augustana College Dean’s List*, all terms Fall 2008 - Spring 2012

## WORK EXPERIENCE

**Iowa State University**, Ames, Iowa USA

*Postdoctoral Research Associate*

**December 2017 - Present**

Carry out research relating to human factors in forensic science, mentor graduate and undergraduate students, and perform outreach and education in the legal and forensic communities to advance the mission of the Center for Statistics and Applications in Forensic Evidence(CSAFE).

*Research Assistant*

**August 2015 - December 2017**

Working with Drs. Alicia Carriquiry and Heike Hofmann with CSAFE on human factors in presentation of forensic evidence.

*Research Experience for Undergraduates’ Graduate Student Advisor*

**May 2017 - August 2017**

Guided a group of ten undergraduate student researchers from CSAFE’s minority-serving partner institution in a summer of forensic statistics research. Taught R coding, statistics, and Github project management to the students during their 10 weeks at CSAFE.

**Social and Decision Analytics Laboratory, Biocomplexity Institute,  
Virginia Polytechnic Institute and State University**, Arlington, VA, USA

*Student Fellow*

**May 2016 - August 2016**

Student fellow in the Data Science for Public Good program. Worked with other students, faculty, and Arlington County employees on a variety of data-driven and policy-focused projects for Arlington County, Virginia.

**NORC at the University of Chicago**, Chicago, IL, USA

*Graduate Research Assistant*

**August 2015 - April 2016**

Continuation of my summer internship duties part time as a consultant.

*Data Visualization Intern*

**May 2015 - August 2015**

Created data visualizations for a multitude of projects as an intern in the Statistics and Methodology

department. Led four hour-long internal seminars on the theory and practice of data visualization. Worked closely with project leads in several departments, including Public Health, Communications, AP-NORC Center for Public Affairs Research, and Education and Child Development.

**Iowa State University, Ames, Iowa USA**

*Teaching Assistant*

**August 2014 - May 2015**

Instructor for STAT 104: Introduction to Statistics. Gave weekly lectures and labs, wrote and graded exams.

**Kingland Systems Corporation, Ames, Iowa USA**

*Statistical Analyst Intern*

**May 2014 - August 2014**

Served as a member of the Process Management team and performed routine data analysis on project and product data that is utilized by the corporate governing body to make decisions and refine processes and enhance tools. Built predictive analysis models based on historical data to be used in support of planning and estimating of software development processes. Developed charts, graphs and tables to support management visibility of projects, products, and portfolios.

**Iowa State University, Ames, Iowa USA**

*Research Assistant*

**August 2013 - August 2014**

Working with Dr. Shauna Hallmark of Iowa State University's Institute for Transportation on modeling curve navigation on rural highways.

*Teaching Assistant*

**August 2012 - July 2013**

Grade weekly homework assignments for Introduction to Statistics. Supervise lab section of Principles of Statistics twice weekly.

**Valparaiso University, Valparaiso, Indiana USA**

*VERUM*

**May 2011 - July 2011**

Participated in the Valparaiso Experience in Research by Undergraduate Mathematicians summer program. Worked with Dr. Lara Pudwell on pattern avoidance in full binary tree graphs.

WORKSHOPS  
TAUGHT

**The Life-Changing Magic of Tidying Data, Ames, Iowa, USA**

**December 8, 2017**

Workshop on the principles and process of cleaning and tidying messy data sets with the R packages `dplyr`, `tidyr`, and others. Presented at Iowa State University, invited by the R-Ladies Ames group.

**The Week of R, Ames, Iowa, USA**

*with Joe Papio, Haley Jeppson, and Heike Hofmann*

**June 12-15, 2017**

Intensive workshop on the basics of R, as well as data cleaning, webscraping, data visualization, and Shiny in R and RStudio. Presented at Iowa State University.

**Webscraping with tidyverse Packages, Ames, Iowa, USA**

**February 9, 2017**

Workshop on the process of scraping data from the web using the R packages `rvest`, `xml`, and others. Presented at Iowa State University, invited by the R-Ladies Ames group.

**Empowering Women with Self-defense Skills using R, Charlotte, NC, USA**

*with Heike Hofmann*

**October 22, 2016**

Workshop on data cleaning, webscraping, and data visualization in R. Presented at the 2016 Women in Statistics and Data Science conference.

**The Week of R, Ames, Iowa, USA**

*with Eric Hare, Andee Kaplan, and Heike Hofmann*

**May 16-19, 2016**

Intensive workshop on the basics of R, as well as data cleaning, webscraping, data visualization, and Shiny in R and RStudio. Presented at Iowa State University.

PUBLICATIONS

**Tyner, S.**, Briatte, F., and Hofmann, H. "Network visualization with ggplot2." *The R Journal*. Accepted, 2016.

**Tyner, S.** "Using the R Package `geomnet`: Visualizing Trans-Atlantic Slave Trade of Africans, 1514-1866." *CHANCE*. Sep 2016. 29(3)

**Tyner, S.**, "The Joy of Clustering." *Significance Magazine Online*. 11 Nov 2015 <http://www.statslife.org.uk/culture/2553-the-joy-of-clustering>

Hallmark, S., **Tyner, S.**, Oneyear, N., Carney, C., and McGehee, D. "Evaluation of driving behavior on rural 2-lane curves using the SHRP 2 naturalistic driving study data." *Journal of Safety Research*, 54 (2015), p17-27.

Dairyko, M., Pudwell, L., **Tyner, S.**, and Wynn, C. "Non-Contiguous Pattern Avoidance in Binary Trees" *Electronic Journal of Combinatorics* 19 (3) (2012), P22.

#### CODING SKILLS

**Expertise:** R/RStudio, Shiny, L<sup>A</sup>T<sub>E</sub>X, Markdown, HTML/CSS

**Familiarity:** C/C++, SAS, Python, Julia, Mathematica, Maple, JAGS/WinBugs

#### ADDITIONAL EXPERIENCE

**Iowa State University**, Ames, Iowa USA

*Co-founder and co-organizer of R-Ladies Ames*

**December 2016 - Present**

Founded the Ames chapter of the global organization R-Ladies, which promotes gender parity among R users, R package authors, and members of the R foundation and board of directors.

*Departmental Committees*

**August 2014 - May 2017**

Served alongside faculty and staff as the student member of departmental committees: the Social Committee (2014-15) and the Honors and Awards Committee (2015-16, 2016-17).

*The Iowa Stat-ers Club*

**August 2012 - May 2016**

Led this Statistics Department graduate student organization in multiple executive positions: Secretary (2013-14), Social Chair (2014-15), and President (2015-16).