

Samantha C. Tyner, PhD

CONTACT

Phone: 630.346.3539 *E-mail:* sctyner90@gmail.com *Website:* sctyner.github.io

EDUCATION

Iowa State University, Ames, Iowa, USA

Postdoctoral Research Associate, CSAFE

December 2017 - Present

Principal Investigator: Alicia Carriquiry

Ph.D., Statistics

December 2017

Advisor: Heike Hofmann

Dissertation: *Graphical discovery in stochastic actor-oriented models
for social network analysis*

M.S., Statistics

May 2015

Augustana College, Rock Island, Illinois, USA

B.A. Mathematics, Economics, and French, *summa cum laude*

May 2012

COMPUTING SKILLS

Expertise: R/RStudio, Shiny, Markdown, Git/Github, Tableau, HTML/CSS, L^AT_EX

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

PROFESSIONAL EXPERIENCE

*Center for Statistics & Applications in Forensic Evidence (CSAFE),
Iowa State University*, Ames, Iowa USA

Postdoctoral Research Associate

December 2017 - Present

- Author educational materials for legal professionals on the use of statistics in forensic science
- Conduct research relating to human factors, statistical computing in forensic science
- Mentor graduate students on their research projects
- Coordinate the summer research experience for undergraduates (REU) from partner schools

Research Assistant

August 2015 - December 2017

- Author educational materials for legal professionals on the use of statistics in forensic science
- Conduct research relating to human factors, statistical computing in forensic science

REU Graduate Student Advisor

May 2017 - August 2017

- Instructed a group of ten students on R coding, statistics, and Github project management
- Supervised research projects on automated shoeprint matching and steganalysis

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

Graduate Student Fellow

May 2016 - August 2016

- Participated in the interdisciplinary Data Science for Public Good summer program
- Led groups of undergraduate researchers on data-driven policy projects
- Analyzed and combined data from a variety of administrative, census, and GIS sources
- Consulted with county staff on projects to improve government services in Arlington, VA.

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

Graduate Research Assistant

August 2015 - April 2016

- Developed a dynamic reporting system to adapt to changes in Illinois' healthcare marketplace
- Continued my summer internship work part time as a consultant.

Data Visualization Intern

May 2015 - August 2015

- Created data visualizations for a variety of projects in the Statistics & Methodology group
- Designed a multi-use dashboard of education data in Washington state
- Developed a web app with public health, GIS data to uncover potential epidemic regions
- Led four hour-long internal seminars on the theory and best practices of data visualization.

Department of Statistics, Iowa State University, Ames, Iowa USA

Teaching Assistant

August 2014 - May 2015

- Instructor for STAT 104: Introduction to Statistics
- Taught 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
- Performed data analysis on project and product data to refine internal processes and tools
- Built predictive models used in planning and estimating time to complete software development
- Produced graphs and reports to support internal visibility of projects, products, and portfolios.

Institute for Transportation, Iowa State University, Ames, Iowa USA

Research Assistant

August 2013 - August 2014

- Modeled curve navigation on rural highways using large USDOT data sets.

Department of Statistics, Iowa State University, Ames, Iowa USA

Teaching Assistant

August 2012 - July 2013

- Graded weekly homework assignments for STAT 104: Introduction to Statistics
- Supervised lab sections twice weekly.

PUBLICATIONS

5. **Tyner, S.**, Briatte, F., and Hofmann, H. "Network Visualization with ggplot2". *The R Journal*, 9(1):27-59, June 2017.
4. **Tyner, S.** "Using the R Package geomnet: Visualizing Trans-Atlantic Slave Trade of Africans, 1514-1866." *CHANCE*. Sep 2016. 29(3)
3. **Tyner, S.**, "The Joy of Clustering." *Significance Magazine Online*. 11 Nov 2015 <http://www.statslife.org.uk/culture/2553-the-joy-of-clustering>
2. 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.
1. Dairyko, M., Pudwell, L., **Tyner, S.**, and Wynn, C. "Non-Contiguous Pattern Avoidance in Binary Trees" *Electronic Journal of Combinatorics* 19 (3) (2012), P22.

**WORKSHOPS
TAUGHT**

R for Epidemiology, Ames, Iowa, USA

with Haley Jeppson

May 29-31, 2018

Intensive workshop on the basics of R, as well as data cleaning, and data visualization using R and RStudio with specific application to epidemiological data. Presented at the United States Department of Agriculture's National Animal Disease Center.

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.

LEADERSHIP /
SERVICE

Iowa State University, Ames, Iowa USA
Iowa State University Postdoctoral Association **August 2018 - Present**
 Elected as the postdoctoral representative to the University Committee for the Advancement of Women and Gender Equity to voice the interests of women⁺-identifying postdocs on campus.

Webmaster, Iowa Chapter of the ASA **April 2018 - Present**
 Maintain the online presence of the Iowa chapter of the American Statistical Association, the country's top professional association for statisticians.

Co-founder and co-organizer, 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).

HONORS &
AWARDS

Winner, rOpenSci 2018 Fellowship for proposal "Open Forensic Science in R" ropensci.org
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