







# SAMANTHA C. TYNER, PH.D.

## EDUCATION

- Aug. 2019  
|  
Dec. 2017
- **Postdoctoral Research Associate**  
CSAFE, Iowa State University  Ames, IA
    - PI: Alicia Carriquiry
- Dec. 2017  
|  
Aug. 2012
- **Ph.D., Statistics; M.S. Statistics**  
Iowa State University  Ames, IA
    - Dissertation: *Graphical discovery in stochastic actor-oriented models for social network analysis*
    - Advisor: Heike Hofmann
- May 2012  
|  
Aug. 2008
- **B.A., Mathematics, Economics, French**  
Augustana College  Rock Island, IL
    - *Summa cum laude*
    - Phi Beta Kappa, Pi Mu Epsilon, Omicron Delta Kappa, Dean's List






## PROFESSIONAL EXPERIENCE

- Present  
|  
Sep. 2019
- **AAAS Science & Technology Policy Fellow**  
Bureau of Labor Statistics, Office of Survey Methods Research  Washington, D.C.
    - Develop interactive visualization applications using R Shiny
    - Utilize tweets as data to assess public perception of the Bureau and influence communications policy
    - About the AAAS STPF program<sup>1</sup>
- Aug. 2019  
|  
Dec. 2017
- **Postdoctoral Research Associate**  
Center for Statistics & Applications in Forensic Evidence (CSAFE), Iowa State University  Ames, IA
    - Coordinate the summer research experience for undergraduates (REU) from partner schools
    - Mentor graduate students on their research projects
    - Continue work from time as graduate research assistant
- Dec. 2017  
|  
Aug. 2015
- **Graduate Research Assistant**  
CSAFE, Iowa State University  Ames, IA
    - 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



View this CV online with links at  
[cv.sctyner.me](http://cv.sctyner.me)

## CONTACT

 [sctyner90@gmail.com](mailto:sctyner90@gmail.com)  
 [sctyner](https://twitter.com/sctyner)  
 [github.com/sctyner](https://github.com/sctyner)  
 [sctyner.me](http://sctyner.me)  
 [linkedin.com/in/sctyner](https://linkedin.com/in/sctyner)

## LANGUAGE SKILLS



Made with the R package [pagedown](https://github.com/jgm/pagedown).

The source code is available at [github.com/sctyner/cv](https://github.com/sctyner/cv).

Last updated on 2020-08-12.

Aug. 2017  
|  
May. 2017

● **REU Graduate Student Advisor**

CSAFE, Iowa State University

📍 Ames, IA

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

Aug. 2016  
|  
May. 2016

● **Graduate Student Fellow, Data Science for Public Good**

Social and Decision Analytics Laboratory, Biocomplexity Institute, Virginia Polytechnic Institute and State University

📍 Arlington, VA

- 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
- Led groups of undergraduate researchers on data-driven policy projects

Apr. 2016  
|  
Aug. 2015

● **Graduate Research Assistant**

NORC at the University of Chicago

📍 Ames, IA

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

Aug. 2015  
|  
May. 2015

● **Data Visualization Intern**

NORC at the University of Chicago

📍 Chicago, IL

- 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

May. 2015  
|  
Aug. 2014

● **Graduate Teaching Assistant**

Dept. of Statistics, Iowa State University

📍 Ames, IA

- Instructor for STAT 104: Introduction to Statistics
- Taught weekly lectures and labs
- Wrote and graded exams

Aug. 2014  
|  
May. 2014

● **Statistical Analyst Intern, Process Management Team**

Kingland Systems Corporation

📍 Ames, IA

- 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

Aug. 2014  
|  
Aug. 2013

● **Graduate Research Assistant**

Institute for Transportation, Iowa State University

📍 Ames, IA

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

Jul. 2013  
|  
Aug. 2012



### Graduate Teaching Assistant

Dept. of Statistics, Iowa State University

📍 Ames, IA

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



## HONORS & AWARDS

Feb. 2018



### Winner, 2018 rOpenSci Fellowship

For proposal, “Open Forensic Science in R”

📍 Ames, IA

- Please see [ropensci.org](https://ropensci.org)<sup>2</sup> for more.

Jul. 2016



### Winner, Student Paper Competition

Statistical Graphics Section of the American Statistical Association

📍 Chicago, IL

- For “Using the geomnet Package”. See Publications
- Awarded at JSM 2016<sup>3</sup>

Sept. 2015



### Runner-up, Young Statisticians Writing Competition

Young Statisticians Section of the Royal Statistical Society

📍 Exeter, Devon, UK

- For “The Joy of Clustering.” See publications.
- Awarded at RSS 2015<sup>4</sup>

Aug. 2012



### Alumni Fellowship

Dept. of Statistics, Iowa State University

📍 Ames, IA



## PUBLICATIONS

2020



### Estimating arthropod survival probability from field counts: a case study with monarch butterflies

Ecosphere 11(4):e03082. April 2020

📍 Ames, IA

- with Tyler J. Grant (1st), D. T. T. Flockhart, T. R. Blader, R. L. Hellmich G. M. Pitman, D. R. Norris, and S. P. Bradbury
- !DOI<sup>6</sup>](<https://doi.org/10.1002/ecs2.3082>)

2019



### Evaluation and comparison of methods for forensic glass source conclusions

*Forensic Science International*, Volume 305, December 2019, 110003

📍 Ames, IA

- with Soyoung Park (1st)
- !DOI<sup>7</sup>](<https://doi.org/10.1016/j.forsciint.2019.110003>)

2019



### Open Forensic Science in R

Editor, published online

📍 Ames, IA

- !DOI<sup>8</sup>](<https://doi.org/10.5281/zenodo.3418141>)

I also enjoy writing about my work and sharing my talks on my blog<sup>5</sup>.

- 2017 ● **Network Visualization with ggplot2**  
*The R Journal*. 9(1): 27-59. June 2017  
 • with François Briatte and Heike Hofmann  
 • !DOI<sup>9]</sup>(<https://doi.org/10.32614/RJ-2017-023>)  
 📍 Ames, IA
- 2016 ● **Using the R Package geomnet: Visualizing Trans-Atlantic Slave Trade of Africans, 1514-1866**  
*CHANCE*. Sep. 2016. 29(3)  
 • !DOI<sup>10]</sup>(<https://doi.org/10.1080/09332480.2016.1234879>)  
 📍 Ames, IA
- 2015 ● **The Joy of Clustering**  
*Significance Magazine Online*. 11 Nov. 2015  
 📍 Ames, IA
- 2015 ● **Evaluation of driving behavior on rural 2-lane curves using the SHRP 2 naturalistic driving study data**  
*Journal of Safety Research*. 2015. 54, 17-27.  
 • with Shauna Hallmark (1st), Nicole Oneyear, Cher Carney, and Dan McGehee  
 • !DOI<sup>11]</sup>(<https://doi.org/10.1016/j.jsr.2015.06.017>)  
 📍 Ames, IA
- 2012 ● **Non-Contiguous Pattern Avoidance in Binary Trees**  
*Electronic Journal of Combinatorics*. 2012. 19(3). #P22  
 • with Michael Dairyko, Lara Pudwell, and Casey Wynn  
 • !DOI<sup>12]</sup>(<https://doi.org/10.37236/2099>)  
 📍 Valparaiso, IN



## LEADERSHIP & SERVICE

- Apr. 2019 ● **Founder & Co-organizer of the Uncoast Unconference<sup>13</sup>**  
 Hackathon-style event for R users and developers living in middle America.  
 📍 Des Moines, IA
- Jul. 2019  
 |  
 Aug. 2018 ● **Iowa State University Postdoctoral Association**  
 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.  
 📍 Ames, IA
- Apr. 2019  
 |  
 Apr. 2018 ● **Webmaster, Iowa Chapter of the ASA**  
 Maintain the online presence of the Iowa chapter of the American Statistical Association, the country's top professional association for statisticians  
 📍 Ames, IA
- Aug. 2019  
 |  
 Dec. 2016 ● **Co-founder and co-organizer, R-Ladies Ames**  
 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  
 • with Natalia daSilva  
 📍 Ames, IA

I am deeply passionate about creating and fostering a welcoming community in my professional life.

May 2017  
|  
Aug. 2014



### Statistics Departmental Committees

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

📍 Ames, IA

May 2016  
|  
Aug. 2013



### The Iowa STAT-ers Club

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

📍 Ames, IA



## WORKSHOPS TAUGHT

Jul. 2020



### Creating Beautiful Data Visualizations in R

A virtual tutorial I taught as a part of useR!2020, which was also co-hosted by R-Ladies D.C. and R-Ladies NYC.

📍 Virtual

Apr. 2020



### Creating Beautiful Data Visualizations in R

A 4-hour, 2-day workshop given to Bureau of Labor Statistics and other federal employees on creating data visualizations in R with ggplot2. Teaching this course was a requirement of my fellowship role with the AAAS Science & Technology Policy Fellowships program.

📍 Washington, D.C.

May 2018



### R for Epidemiology

Intensive workshop on the basics of R, data cleaning, and visualization using R and RStudio with application to epidemiological data. Presented at the USDA's National Animal Disease Center.

📍 Ames, IA

• with Haley Jeppson

Dec. 2018



### The Life-Changing Magic of Tidying Data

Workshop on tidying messy data sets with the R packages dplyr, tidyr, and others. Presented to the R-Ladies Ames group.

📍 Ames, IA

Jun 2017



### The Week of R

Intensive workshop on the basics of R, as well as data cleaning, webscraping, data visualization, and Shiny in R and RStudio.

📍 Ames, IA

Feb. 2017



### Webscraping with tidyverse Packages

Workshop on scraping data from the web using the R packages rvest, xml, and others. Presented to the R-Ladies Ames group.

📍 Ames, IA

• with Jo Papio, Haley Jeppson, and Heike Hofmann

Oct. 2016



### Empowering Women with Self-defense Skills using R

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

📍 Charlotte, NC

• TA for Heike Hofmann

I love teaching R workshops to any audience! I have taught undergraduates, graduate students, and professionals of all levels. Materials from my talks are available at [sctyner.me/talk](https://sctyner.me/talk)<sup>14</sup>.

May 2016



## The Week of R

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.

📍 Ames, IA

• with Eric Hare, Andee Kaplan, and Heike Hofmann



## LINKS

1. <https://www.aaas.org/programs/science-technology-policy-fellowships/overview>
2. <https://ropensci.org/blog/2018/02/14/announcing-2018-ropensci-fellows/>
3. <https://www2.amstat.org/meetings/jsm/2016/>
4. [https://www.rss.org.uk/RSS/Events/Conference/2015\\_conference.aspx?WebsiteKey=bc86df55-c2ae-4d73-8450-66ecc8988ded&hkey=2a432b6b-6baf-4bc3-baa4-063221c13ab8](https://www.rss.org.uk/RSS/Events/Conference/2015_conference.aspx?WebsiteKey=bc86df55-c2ae-4d73-8450-66ecc8988ded&hkey=2a432b6b-6baf-4bc3-baa4-063221c13ab8)
5. <https://sctyner.me/post/>
6. <https://img.shields.io/static/v1?label=DOI&message=10.1002/ecs2.3082&color=ae027e>
7. <https://img.shields.io/static/v1?label=DOI&message=10.1016/j.forsciint.2019.110003&color=ae027e>
8. <https://img.shields.io/static/v1?label=DOI&message=10.5281/zenodo.3418141&color=ae027e>
9. <https://img.shields.io/static/v1?label=DOI&message=10.32614/RJ-2017-023&color=ae027e>
10. <https://img.shields.io/static/v1?label=DOI&message=10.1080/09332480.2016.1234879&color=ae027e>
11. <https://img.shields.io/static/v1?label=DOI&message=10.1016/j.jsr.2015.06.017&color=ae027e>
12. <https://img.shields.io/static/v1?label=DOI&message=10.37236/2099&color=ae027e>
13. <http://uuconf.rbind.io>
14. <https://sctyner.me/talk/>