

# Susan Vanderplas

## Curriculum Vitae

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### Education

- 2009  
15 **Ph.D.**, *Statistics*, Iowa State University
- 2009  
11 **MS**, *Statistics*, Iowa State University
- 2005  
09 **BS**, *Psychology & Applied Mathematical Sciences*, Texas A&M University

### Professional Experience

- Since 2024 **Associate Professor**, *Statistics*, University of Nebraska-Lincoln
- 2020  
24 **Assistant Professor**, *Statistics*, University of Nebraska-Lincoln
- 2018  
19 **Research Assistant Professor**, *Center for Statistics and Applications in Forensic Evidence*, Iowa State University
- 2015  
18 **Statistical Analyst**, Nebraska Public Power District
- Apr 2015  
Oct **Postdoc**, *Office of the Vice President for Research*, Iowa State University

### Publications

Student advisees indicated with \*. Contribution percentages estimated from git contributions using `git fame` where possible. Not all projects have github repositories for which this is meaningful. Most of these papers are highly collaborative, and intellectual contributions are typically shared between all authors.

#### Peer Reviewed Publications

27. 2024 Rosenblum, Michael, Chin, Elizabeth T., Ogburn, Elizabeth L., Nishimura, Akihiko, Westreich, Daniel, Datta, Abhirup, **Vanderplas, Susan**, Cuellar, Maria, and Thompson, William C. (Nov. 5, 2024a). "Incorrect statistical reasoning in Guyll et al. leads to biased claims about strength of forensic evidence". In: *Proceedings of the National Academy of Sciences* 121.45. DOI: [10.1073/pnas.2315431121](https://doi.org/10.1073/pnas.2315431121).
26. 2024 **Vanderplas, Susan**, Carriquiry, Alicia, and Hofmann, Heike (June 18, 2024). "Hidden multiple comparisons increase forensic error rates". In: *Proceedings of the National Academy*

of Sciences 121.25. DOI: [10.1073/pnas.2401326121](https://doi.org/10.1073/pnas.2401326121).

**Contribution:** Programming and analysis (80%), Writing (80%).

25. [2024](#)

Wiederich, Tyler and Vanderplas, Susan (Apr. 24, 2024). "Evaluating Perceptual Judgements on 3D Printed Bar Charts". In: *Journal of Data Science* 22.2, pp. 176–190. ISSN: 1680743X. DOI: [10.6339/24-JDS1131](https://doi.org/10.6339/24-JDS1131).

**Contribution:** Programming and analysis (40%), Writing (60%), Advising (100%).

24. [2024](#)

Li, Weihao\*, Cook, Dianne, Tanaka, Emi, and **VanderPlas, Susan** (May 22, 2024). "A Plot Is Worth a Thousand Tests: Assessing Residual Diagnostics with the Lineup Protocol". In: *Journal of Computational and Graphical Statistics*. ISSN: 1061-8600. DOI: [10.1080/10618600.2024.2344612](https://doi.org/10.1080/10618600.2024.2344612).

**Contribution:** Advising 10%.

23. [2024](#)

Ju, Wangqian\*, **VanderPlas, Susan R.**, and Hofmann, Heike (Jan. 24, 2024). "One Model That Fits Them All: Psychometrics With Generalized Linear Mixed Effects Models". In: *Electronic Imaging* 36, pp. 1–8. DOI: [10.2352/EI.2024.36.1.VDA-358](https://doi.org/10.2352/EI.2024.36.1.VDA-358).

**Contribution:** Advising 10%.

22. [2024](#)

Rogers, Rachel\* and **VanderPlas, Susan** (May 2, 2024). "Demonstrative Evidence and the Use of Algorithms in Jury Trials". In: *Journal of Data Science* 22.2, pp. 314–332. DOI: [10.6339/24-JDS1130](https://doi.org/10.6339/24-JDS1130).

**Contribution:** Writing 20%, Advising 100%.

21. [2024](#)

**Vanderplas, Susan**, Blankenship, Erin, and Wiederich, Tyler\* (July 1, 2024). "Escaping Flatland: Graphics, Dimensionality, and Human Perception". In: *Human Interface and the Management of Information*. Ed. by Hirohiko Mori and Yumi Asahi. Springer Nature Switzerland July 1, 2024, pp. 140–156. ISBN: 978-3-031-60114-9. DOI: [10.1007/978-3-031-60114-9\\_11](https://doi.org/10.1007/978-3-031-60114-9_11).

**Contribution:** Writing 100%, Analysis 70%.

20. [2024](#)

Rosenblum, Michael, Chin, Elizabeth T, Ogburn, Elizabeth L, Nishimura, Akihiko, Westreich, Daniel, Datta, Abhirup, **Vanderplas, Susan**, Cuellar, Maria, and Thompson, William C (Jan. 9, 2024b). "Misuse of statistical method results in highly biased interpretation of forensic evidence in Guyll et al. (2023)". In: *Law, Probability and Risk* 23.1. DOI: [10.1093/lpr/mgad010](https://doi.org/10.1093/lpr/mgad010). URL: <https://doi.org/10.1093/lpr/mgad010>.

**Contribution:** Writing (10%). This paper is a collaboration between all authors resulting from discussions about the Guyll et al. paper.

19. [2023](#)

Robinson, Emily A.\*, Howard, Reka, and **VanderPlas, Susan** (Oct. 2, 2023). "Eye Fitting Straight Lines in the Modern Era". In: *Journal of Computational and Graphical Statistics* 32.4, pp. 1537–1544. ISSN: 1061-8600. DOI: [10.1080/10618600.2022.2140668](https://doi.org/10.1080/10618600.2022.2140668).

**Contribution:** Programming and analysis (10%), Writing (10%), Advising (60%).

18. [2023](#)

**VanderPlas, Susan**, Ge, Yawei\*, Unwin, Antony, and Hofmann, Heike (Mar. 2023). "Penguins Go Parallel: a grammar of graphics framework for generalized parallel coordinate plots". In: *Journal of Computational and Graphical Statistics*. DOI: [10.1080/10618600.2023.2195462](https://doi.org/10.1080/10618600.2023.2195462).






**Contribution:** Writing (50%).

17. [2023](#)





Zemmels, Joseph\*, **Vanderplas, Susan**, and Hofmann, Heike (Feb. 9, 2023). "A Study in Reproducibility: The Congruent Matching Cells Algorithm and cmcR package". In: *R Journal* 14 (4), pp. 79–102. DOI: [10.32614/RJ-2023-014](https://doi.org/10.32614/RJ-2023-014).

**Contribution:** Programming and analysis (10%), Writing (20%), Advising (40%).

16. <sup>2023</sup> Robinson, Emily\*, Howard, Reka, and **VanderPlas, Susan** (Jan. 2023). "You Draw It: Implementation of visually fitted trends with r2d3". In: *Journal of Data Science*. ISSN: 1680-743X. DOI: [10.6339/22-JDS1083](https://doi.org/10.6339/22-JDS1083).  
**Contribution:** Writing (10%), Advising (80%).
15. <sup>2022</sup> Bradford, Denise\* and **VanderPlas, Susan** (Dec. 2022). "Exploring Rural Shrink Smart Through Guided Discovery Dashboards". In: *Journal of Data Science*, pp. 1–12. ISSN: 1680-743X. DOI: [10.6339/22-JDS1080](https://doi.org/10.6339/22-JDS1080).  
**Contribution:** Programming and analysis (10%), Writing (10%), Advising (100%).
14. <sup>2022</sup> Wilhelm, Adalbert and **VanderPlas, Susan** (Nov. 2022). "Visual Narratives of the Covid-19 pandemic". In: *Journal of Data Science, Statistics, and Visualisation 2.7*, pp. 84–113. DOI: [10.52933/jdssv.v2i7.64](https://doi.org/10.52933/jdssv.v2i7.64).  
**Contribution:** Writing (60%).
13. <sup>2021</sup> Hofmann, Heike, Carriquiry, Alicia, and **Vanderplas, Susan** (May 5, 2021). "Treatment of inconclusives in the AFTE range of conclusions". In: *Law, Probability and Risk* 19.3-4, pp. 317–364. ISSN: 1470-8396. DOI: <https://doi.org/10.1093/lpr/mgab002>.  
**Contribution:** Writing (50%).
12. <sup>2021</sup> **Vanderplas, Susan**, Röttger, Christian, Cook, Dianne, and Hofmann, Heike (Dec. 1, 2021). "Statistical significance calculations for scenarios in visual inference". In: *Stat* 10.1, e337. DOI: <https://doi.org/10.1002/sta4.337>.  
**Contribution:** Programming and analysis (30%), Writing (65%).
11. <sup>2020</sup> **Vanderplas, Susan**, Carriquiry, Alicia, Hofmann, Heike, Hamby, James, and Tai, Xiao Hui (2020). "An introduction to firearms examination for researchers in statistics". In: *Handbook of Forensic Statistics*. Ed. by Banks, D., Kafadar, K., Kaye, D., and Tackett, M. New York: Chapman and Hall/CRC 2020. DOI: <https://doi.org/10.1201/9780367527709>.  
**Contribution:** Writing (50%).
10. <sup>2020</sup> **Vanderplas, Susan**, Nally, Melissa, Klep, Tylor, Cadevall, Cristina, and Hofmann, Heike (Mar. 1, 2020). "Comparison of three similarity scores for bullet LEA matching". In: *Forensic Science International* 308, p. 110167. ISSN: 0379-0738. DOI: <https://doi.org/10.1016/j.forsciint.2020.110167>.  
**Contribution:** Programming and analysis (20%), Writing (55%).
9. <sup>2020</sup> **Vanderplas, Susan**, Cook, Dianne, and Hofmann, Heike (Mar. 1, 2020). "Testing Statistical Charts: What Makes a Good Graph?" In: *Annual Review of Statistics and Its Application* 7.1, pp. 61–88. DOI: <https://doi.org/10.1146/annurev-statistics-031219-041252>.  
**Contribution:** Writing (85%).
8. <sup>2019</sup> Rutter, Lindsay, **Vanderplas, Susan**, Cook, Dianne, and Graham, Michelle (May 29, 2019). "ggenealogy: An R Package for Visualizing Genealogical Data". In: *Journal of Statistical Software* 89.13, pp. 1–31. DOI: <https://doi.org/10.18637/jss.v089.i13>.
7. <sup>2019</sup> **Vanderplas, Susan**, Goluch, Ryan C, and Hofmann, Heike (Apr. 1, 2019). "Framed! Reproducing and Revisiting 150-Year-Old Charts". In: *Journal of Computational and Graphical Statistics* 28.3, pp. 620–634. DOI: <https://doi.org/10.1080/10618600.2018.1562937>.  
**Contribution:** Programming and analysis (60%), writing (50%).
6. <sup>2018</sup> Sievert, Carson, **Vanderplas, Susan**, Cai, Jun, Ferris, Kevin, Khan, Faizan Uddin Fahad, and Hocking, Toby Dylan (Nov. 14, 2018). "Extending ggplot2 for Linked and Animated Web Graphics". In: *Journal of Computational and Graphical Statistics* 28.2, pp. 299–308. DOI: <https://doi.org/10.1080/10618600.2018.1513367>.


5.  2017  
**Vanderplas, Susan** and Hofmann, Heike (Apr. 24, 2017). "Clusters Beat Trend!? Testing Feature Hierarchy in Statistical Graphics". In: *Journal of Computational and Graphical Statistics* 26.2, pp. 231–242. DOI: <https://doi.org/10.1080/10618600.2016.1209116>.  
**Contribution:** Programming and analysis (90%), writing (50%).
4.  2016  
**VanderPlas, Susan** and Hofmann, Heike (Dec. 31, 2016). "Spatial Reasoning and Data Displays". In: *IEEE Transactions on Visualization and Computer Graphics* 22.1, pp. 459–468. DOI: <https://doi.org/10.1109/TVCG.2015.2469125>.  
**Contribution:** Programming and analysis (90%), writing (75%).
3.  2015  
**Vanderplas, Susan** and Hofmann, Heike (Dec. 10, 2015). "Signs of the Sine Illusion - why we need to care". In: *Journal of Computational and Graphical Statistics* 24.4, pp. 1170–1190. DOI: <https://doi.org/10.1080/10618600.2014.951547>.  
**Contribution:** Programming and analysis (50%), writing (60%).
2.  2010  
Towfic, Fadi, **Vanderplas, Susan**, Oliver, Casey A, Couture, Oliver, Tuggle, Christopher K, Greenlee, M Heather West, and Honavar, Vasant (2010). "Detection of gene orthology from gene co-expression and protein interaction networks". In: *BMC bioinformatics* 11.Suppl 3, S7. DOI: <https://doi.org/10.1186/1471-2105-11-S3-S7>.
1.  2009  
Hull, Rachel, Bortfeld, Heather, and **Koons, Susan** (2009). "Near-infrared spectroscopy and cortical responses to speech production". In: *The open neuroimaging journal* 3, p. 26. DOI: <https://doi.org/10.2174/1874440000903010026>.


## Other Publications

4.  2021  
*Submitted as an invited response to Hullman & Gelman's "Designing for Interactive Exploratory Data Analysis Requires Theories of Graphical Inference".*  
**VanderPlas, Susan** (July 30, 2021). "Designing Graphics Requires Useful Experimental Testing Frameworks and Graphics Derived From Empirical Results". In: *Harvard Data Science Review* 3.3. DOI: <https://doi.org/10.1162/99608f92.7d099fd0>.
3.  2019  
Carriquiry, Alicia, Hofmann, Heike, Tai, Xiao Hui, and **Vanderplas, Susan** (Apr. 1, 2019). "Machine learning in forensic applications". In: *Significance* 16.2, pp. 29–35. DOI: <https://doi.org/10.1111/j.1740-9713.2019.01252.x>.  
**Contribution:** Writing (50%).
2.  2017  
*Submitted as an invited response to Donoho's "50 years of Data Science".*  
Hofmann, Heike and **Vanderplas, Susan** (Dec. 19, 2017). "All of This Has Happened Before. All of This Will Happen Again: Data Science". In: *Journal of Computational and Graphical Statistics* 26.4, pp. 775–778. DOI: <https://doi.org/10.1080/10618600.2017.1385474>.  
**Contribution:** Writing (75%).
1.  2013  
Budrus, Sarah, **Vanderplas, Susan**, and Cook, Dianne (2013). "In tennis, do smashes win matches?" In: *Significance* 10.3, pp. 35–38. DOI: <https://doi.org/10.1111/j.1740-9713.2013.00665.x>.

## Software

Dates show initial involvement; only packages which are no longer maintained have end dates.

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-  2024

**courtr**, *Tools to create visually appealing courtroom studies*, <https://github.com/rachelesrogers/courtr>
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-  2023

**highlightr**, *Analysis of edited text data*, <https://github.com/rachelesrogers/highlightr>

2021	<b>ggpcp</b> , <i>Generalized parallel coordinate plots</i> , <a href="https://github.com/heike/ggpcp">https://github.com/heike/ggpcp</a>
2020	<b>vinference</b> , <i>Analysis of visual inference experiments</i> , <a href="https://github.com/heike/vinference">https://github.com/heike/vinference</a>
2019 21	<b>groovefinder</b> , <i>Identification of grooves in scans of bullet land engraved areas</i> , <a href="https://github.com/heike/groovefinder">https://github.com/heike/groovefinder</a>
2019	<b>cmcR</b> , <i>Automated matching of 3d cartridge case scans using the congruent matching cells algorithm</i> , <a href="https://github.com/CSAFE-ISU/cmcR">https://github.com/CSAFE-ISU/cmcR</a>
2018	<b>bulletxtrctr</b> , <i>Automated matching of 3d bullet scans</i> , <a href="https://github.com/heike/bulletxtrctr">https://github.com/heike/bulletxtrctr</a>
2018	<b>x3ptools</b> , <i>Reading, manipulating, and visualizing x3p files</i> , <a href="https://github.com/heike/x3ptools">https://github.com/heike/x3ptools</a>
2018	<b>bulletsamplr</b> , <i>Resampling of bullet signatures</i> , <a href="https://github.com/srvanderplas/bulletsamplr">https://github.com/srvanderplas/bulletsamplr</a>
2018 20	<b>ShoeScraperR</b> , <i>Acquisition of shoe images and metadata from online retailers</i> , <a href="https://github.com/srvanderplas/shoescraper">https://github.com/srvanderplas/shoescraper</a>
2018 21	<b>ImageAlignR</b> , <i>Image registration algorithms for forensics</i> , <a href="https://github.com/srvanderplas/imagealignr">https://github.com/srvanderplas/imagealignr</a>
2013 15	<b>animint</b> , <i>Animated, interactive web graphics for R using ggplot2 and d3.js</i> , <a href="https://github.com/tdhock/animint">https://github.com/tdhock/animint</a>

## Grants

### Under Review

2024	<b>NSF: CAREER</b> , <i>What Do You See? Perception, Decisions, and Statistical Graphics</i> , PI, Total: \$666,485
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### Funded


2021 2023	<b>NIJ: R&amp;D In Forensic Science</b> , <i>Automatic Acquisition and Identification of Footwear Class Characteristics</i> , PI, Total: \$380,650
2021 2022	<b>USDA-NIFA: Agriculture and Food Research Initiative</b> , <i>Corn Residue Adaptive Grazing Strategies</i> , Collaborator, Total: \$300,000
2020 2025	<b>NIST: Center for Statistics and Applications in Forensic Evidence</b> , <i>Footwear Class Characteristics and Human Factors</i> , PI, Total: \$20,000,000, Sub: \$456,930
2021 2023	<b>USDA-NRCS: Conservation Innovation Grant On-Farm Trials</b> , <i>Improving the Economic and Ecological Sustainability of US Crop Production through On-Farm Precision Experimentation</i> , PI, Total: \$4,000,000, Sub: \$400,000 (Split between 3 UNL co-PIs)
2020 2023	<b>NSF: Smart and Connected Communities</b> , <i>Overcoming the Rural Data Deficit to Improve Quality of Life and Community Services in Smart &amp; Connected Small Communities</i> , PI, Total: \$1,500,000, Sub: \$123,445
2019 2020	<b>NIJ: R&amp;D In Forensic Science</b> , <i>Statistical Infrastructure for the Use of Error Rate Studies in the Interpretation of Forensic Evidence</i> , Collaborator, Total: \$197,699, Sub: \$57,596

## Awards

2012


**Student Paper Award**, *Graphics Section, American Statistical Association*

## Talks

 provides a link to slides, where available

### Invited


2024

**Web Scraping Olympics: Python** , *Statistical Computing Section Mini-Symposium*, Online


2024

**A Plot is Worth a Thousand Tests: Assessing Residual Diagnostics with the Lineup Protocol** , *JSM*, Section on Statistical Graphics, Portland, Or


2024

**Escaping Flatland: Graphics, Dimensionality, and Human Perception** , *Human Computer Interaction International*, Washington DC


2024

**Cultivating Insights: Harnessing the Power of Data Visualization in Agriculture** , *International Conference for On-Farm Precision Experimentation*, Corpus Christie, TX


2023

**Multimodal User Testing: Producing comprehensive, task-focused guidelines for chart design** , *Australian Statistical Conference*, Wollongong, NSW, AUS

2023

**How Do You Define a Circle? Perception and Computer Vision Diagnostics** , *International Association for Statistical Computing*, Asian Regional Section Meeting, Macquarie, NSW, AUS


2023

**Multimodal User Testing: Producing comprehensive, task-focused guidelines for chart design** , *International Conference on Data Science*, Universidad Diego Portales, Chile

2023

**Testing Statistical Graphics** , *JSM*, Section on Statistical Graphics, Toronto, ON, CA

2021

**How do you define a circle? Perception and Computer Vision Diagnostics** , *JSM*, Section on Statistical Graphics, Seattle, WA


2021

**Pandemics, Graphics, and Perception of Log Scales** , *R Ladies DC*, Washington, DC

2020

**Perception and Visual Communication in a Global Pandemic** , *Data Science, Statistics, and Visualization*, SAMSI, Online

2020

**One of these things is not like the others: Visual Statistics and Testing in Statistical Graphics** , *Data Science Symposium*, South Dakota State University, Brookings, SD


2020

**Big Data, Big Experiments, and Big Problems** , *Plant and Animal Genome*, San Diego, CA


2019

**Statistical Lineups for Bayesians** , *JSM*, Section on Statistical Graphics, Denver, CO


2018

**Clusters Beat Trend!? Testing Feature Hierarchy in Statistical Graphics** , *SDSS*, Reston, VA

2015

**Animint: Interactive Web-Based Animations using Ggplot2's Grammar of Graphics** , *JSM*, Section on Statistical Graphics, Seattle, WA

2014

**The curse of three dimensions: Why your brain is lying to you** , *JSM*, Section on Statistical Graphics, Boston, MA



## Contributed

2022

**Local Population Footwear Class Characteristics - An End-to-End Pipeline for Automatic Data Acquisition and Analysis** [📄](#), *International Association for Identification Meeting*, Omaha, NE

2022

**From Scans to Scores** , *International Association for Identification Meeting*, Omaha, NE

2022

**How do you define a circle? Perception and Computer Vision Diagnostics** [📄](#), *SDSU Data Science Symposium*, South Dakota State University, Brookings, SD

2021

**Welcome to Forensic Statistics** [📄](#), *Data Mishaps Night*, Online

2018

**Framed Charts in the 1870 Statistical Atlas** [📄](#), *JSM*, Section on Statistical Graphics, Vancouver, BC, CA

2017

**A Bayesian Approach to Visual Inference** , *JSM*, Section on Statistical Graphics, Baltimore, MD

2016

**Clusters Beat Trend!? Testing Feature Hierarchy in Statistical Graphics** [📄](#), *JSM*, Section on Statistical Graphics, Chicago, IL

2015

**Visual Aptitude and Statistical Graphics** , *InfoVis*, IEEE, Chicago, IL

2014

**Do You See What I See? Using Shiny for User Testing** [📄](#), *JSM*, Section on Statistical Graphics, Boston, MA

2014

**Animint: Interactive, Web-Ready Graphics with R** [📄](#), *Great Plains R User Group*, Sioux Center, IA

2013

**Signs of the Sine Illusion – why we need to care** , *JSM*, Section on Statistical Graphics, Montreal, ON, CA

## Seminars

2024

**Creating Effective Graphics** [📄](#), *Undergraduate Creative Activities and Research Experience*, Lincoln, NE

2024

**Creating Good Graphics** [📄](#), *UNL REU seminar*, University of Nebraska Lincoln, Lincoln, NE

2024

**Graphical Perception in a Pandemic: Log Scales, Exponential Growth, and the Importance of User Testing** , *University of Illinois Chicago School of Public Health*, Epidemiology and Biostatistics Seminar, Chicago, IL (Online)

2024

**Building a CV/Blog Automatically** [📄](#), *Graphics Group*, University of Nebraska, Online

2024

**Building a CV with R and Google Sheets** [📄](#), *Graphics Group*, University of Nebraska, Online

2024

**Using Git Submodules** [📄](#), *Graphics Group*, University of Nebraska, Online

2023

**Graphics and Cognition: How Do We Perceive Charts?** [📄](#), *Graphics Group*, University of Nebraska-Lincoln, Iowa State University, and other interested affiliates, Online

2023

**What Makes a Good Graph? Graphical Testing and Principles for Graph Design** [📄](#), *Center for Brain, Biology, and Behavior*, University of Nebraska, Lincoln, NE

2023

**Inconclusive Conclusions: Biases and Consequences** [📄](#), *Biostatistics*, Johns Hopkins University, Baltimore, MD

2022	<b>Reproducible Science: Statistics, Forensics, and the Law</b> <a href="#">📄</a> , <i>Statistics</i> , University of Nebraska - Lincoln, Lincoln, NE
2022	<b>How to make good charts</b> <a href="#">📄</a> , <i>Complex Biosystems</i> , University of Nebraska - Lincoln, Lincoln, NE
2022	<b>Pandemics, Graphics, and Perception of Log Scales</b> <a href="#">📄</a> , <i>Math</i> , University of Nebraska - Omaha, Omaha, NE
2022	<b>Automatic Acquisition of Footwear Class Characteristics</b> <a href="#">📄</a> , <i>Center for Statistical Applications in Forensic Evidence</i> , Online
2021	<b>Pandemics, Graphics, and Perception of Log Scales</b> <a href="#">📄</a> , <i>NUMBATS</i> , Monash University, Melbourne, Vic, AUS
2021	<b>Exploring Rural Quality of Life Using Data Science and Public Data</b> <a href="#">📄</a> , <i>QQPM</i> , University of Nebraska - Lincoln, Lincoln, NE
2021	<b>Inconclusive Conclusions: Biases and Consequences</b> <a href="#">📄</a> , <i>Law and Psychology Brown Bag</i> , University of Nebraska - Lincoln, Lincoln, NE
2021	<b>Visual Statistics: Communication and Graphical Testing</b> <a href="#">📄</a> , <i>Animal Science</i> , University of Nebraska - Lincoln, Lincoln, NE
2021	<b>How to Make Good Charts</b> <a href="#">📄</a> , <i>Biological and Systems Engineering GSA</i> , University of Nebraska - Lincoln, Lincoln, NE
2020	<b>Statistical Evaluation of Firearms and Toolmark Evidence</b> <a href="#">📄</a> , <i>Statistics</i> , University of Nebraska - Lincoln, Lincoln, NE

## Teaching

2024	<b>STAT 151</b> , <i>Introduction to Statistical Computing</i> , University of Nebraska - Lincoln, Flipped synchronous
2024	<b>STAT 251</b> , <i>Data Wrangling</i> , University of Nebraska - Lincoln, Flipped synchronous
2024	<b>STAT 892</b> , <i>Writing in Statistics/TA Prep</i> , University of Nebraska - Lincoln, In person synchronous
2024	<b>Stat 992</b> , <i>Special Topics in Data Visualization</i> , University of Nebraska - Lincoln, In person synchronous
2023	<b>STAT 151</b> , <i>Introduction to Statistical Computing</i> , University of Nebraska - Lincoln, Flipped synchronous. Evals: 4.55 (mean), 5 (median)
2023	<b>STAT 251</b> , <i>Data Wrangling</i> , University of Nebraska - Lincoln, Flipped synchronous. Evals: 4.30 (mean), 5 (median)
2023	<b>STAT 892</b> , <i>Data Technologies for Statistical Analysis</i> , University of Nebraska - Lincoln, Co-taught with ISU Stat 585, Hybrid synchronous
2023	<b>STAT 850</b> , <i>Computing Tools for Statisticians</i> , University of Nebraska - Lincoln, Flipped synchronous. Evals: 4.31 (mean), 5 (median)
2023	<b>STAT 892</b> , <i>Writing in Statistics/TA Prep</i> , University of Nebraska - Lincoln, In person synchronous. Evals: 4.13 (mean), 4 (median)
2022	<b>STAT 151</b> , <i>Introduction to Statistical Computing</i> , University of Nebraska - Lincoln, Flipped synchronous. Evals: 4.95 (mean), 5 (median)



2022	<b>STAT 218</b> , <i>Introduction to Statistics</i> , University of Nebraska - Lincoln, Online asynchronous. Evals: 3.72 (mean), 4 (median)
2022	<b>STAT 850</b> , <i>Computing Tools for Statisticians</i> , University of Nebraska - Lincoln, Flipped synchronous. Evals: 4.33 (mean), 5 (median)
2022	<b>STAT 892</b> , <i>Writing in Statistics/TA Prep</i> , University of Nebraska - Lincoln, In person synchronous. Evals: 4.29 (mean), 5 (median)
2022	<b>STAT 982</b> , <i>Advanced Inference</i> , University of Nebraska - Lincoln, Co-taught with Bertrand Clarke. Evals: 4.34 (mean), 5 (median)
2021	<b>STAT 218</b> , <i>Introduction to Statistics</i> , University of Nebraska - Lincoln, Online asynchronous.. Evals: 4.01 (mean), 4 (median)
2021	<b>STAT 850</b> , <i>Computing Tools for Statisticians</i> , University of Nebraska - Lincoln, Hybrid, flipped, synchronous. Evals: 4.79 (mean), 5 (median)
2020	<b>STAT 218</b> , <i>Introduction to Statistics</i> , University of Nebraska - Lincoln, Initially in person synchronous, then online asynchronous. Evals: 4.20 (mean), 4 (median)
2020	<b>STAT 850</b> , <i>Computing Tools for Statisticians</i> , University of Nebraska - Lincoln, Hybrid, flipped, synchronous. Evals: 4.76 (mean), 5 (median)
2019	<b>STAT 585</b> , <i>Data Technologies for Statistical Analysis</i> , Iowa State, Co-taught with Heike Hofmann. Evals: 4.92 (mean), 5 (median)

## Mentoring

### Ph.D.

2023	<b>Tyler Wiederich</b> , <i>Perception of Three Dimensional Graphics</i> , University of Nebraska - Lincoln
2023	<b>Muxin Ha</b> , <i>Automatic Recognition of Shoe Class Characteristics</i> , University of Nebraska - Lincoln
2021	<b>Denise Bradford</b> , <i>Dashboards for Exploratory Multivariate Data Analysis</i> , University of Nebraska - Lincoln
2022 2024	<b>Weihao (Patrick) Li</b> , <i>Advances in Artificial Intelligence for Data Visualization: Developing Computer Vision Models to Automate Reading of Data Plots, with Application to Predictive Model Diagnostics</i> , co-advised with Dianne Cook and Emi Tanaka, Monash University
2021 2024	<b>Rachel Rogers</b> , <i>Explainable Machine Learning for Forensics in Courtrooms</i> , University of Nebraska - Lincoln
2020 2023	<b>Alison Kleffner</b> , <i>Spatial Statistics and Visualization in Ecology and Agriculture</i> , co-advised with Yawen Guan, University of Nebraska - Lincoln
2020 2023	<b>Joseph Zemmels</b> , <i>Analysis and Matching of Cartridge Cases</i> , co-advised with Heike Hofmann, Iowa State University
2020 2022	<b>Emily Robinson</b> , <i>Perception of Log Scales</i> , co-advised with Reka Howard, University of Nebraska - Lincoln

### MS

2023	<b>Carson Trego</b> , <i>A Statistical Approach to Learning Computer Vision</i> , University of Nebraska - Lincoln
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2023	<b>Maksuda Aktar Toma</b> , <i>An Historical Analysis of Pie and Bar Chart Experiments</i> , University of Nebraska - Lincoln
2023	<b>Dinuwanthi Lianage</b> , University of Nebraska
2022 2023	<b>Tyler Wiederich</b> , <i>Perception of Three Dimensional Graphics</i> , University of Nebraska - Lincoln
2022 2023	<b>Muxin Ha</b> , <i>Automatic Recognition of Shoe Class Characteristics</i> , University of Nebraska - Lincoln
2021 2022	<b>Jayden Stack</b> , <i>Automatic Recognition of Shoe Class Characteristics</i> , University of Nebraska - Lincoln
2020	<b>Ved Piyush</b> , <i>Machine Learning and Computer Vision</i> , University of Nebraska - Lincoln
2019 2020	<b>Joseph Zemmels</b> , <i>Analysis and Matching of Cartridge Cases</i> , co-advised with Heike Hofmann, Iowa State University
2019 2020	<b>Eryn Blagg</b> , <i>Analysis of Wear Development in Three-Dimensional Shoe Scans</i> , co-advised with Heike Hofmann, Iowa State University
2018 2019	<b>Miranda Tilton</b> , <i>Footwear Class Characteristics and Computer Vision</i> , Iowa State University
<b>Undergraduate</b>	
2021	<b>Xinyu Liu</b> , <i>Machine Learning for Shoe Sole Images</i> , UNL FYRE Program, University of Nebraska - Lincoln
2019	<b>Jason Seo</b> , <i>R package for visualization of neural networks using the python library keras-vis</i> , Iowa State University
2018 2019	<b>Talen Fisher</b> , <i>Database engineering and tools for working with x3p files</i> , Iowa State University
<b>Summer</b>	
2019	<b>Molly McDermott and Andrew Maloney</b> , <i>Bullet Scan Quality and Machine Learning</i> , Iowa State University
2019	<b>Syema Ailia, Emmanuelle Hernandez Morales, Tiger Ji</b> , <i>Rapid quality control tools for confocal microscopy scans</i> , Iowa State University
2018	<b>Ben Wonderlin, Jenny Kim</b> , <i>Footwear Class Characteristics and Computer Vision</i> , Young Engineers and Scientists Program, Iowa State University

## Service

### Discipline

2024	<b>Organizer</b> , <i>Nebraska R User Group (NEBRUG)</i> , Co-chair, Group for R users across Nebraska to connect and learn new skills.
2023 2025	<b>Member</b> , <i>Advisory Committee on Forensic Science</i> , ASA
2023 2024	<b>Chair</b> , <i>Section on Statistical Graphics</i> , ASA
2022 2023	<b>Chair-Elect</b> , <i>Section on Statistical Graphics</i> , ASA
2021 2024	<b>Associate Editor</b> , <i>Journal of Computational and Graphical Statistics</i>
2020 2026	<b>Associate Editor</b> , <i>R Journal</i>

2020	<b>Program Chair</b> , <i>Section on Statistical Graphics</i> , ASA
2022	
2020	<b>Program Committee (Graphics)</b> , <i>Symposium on Data Science and Statistics (2020)</i>
2019	
2021	<b>Member</b> , <i>Gertrude Cox Scholarship Committee</i> , ASA
2019	<b>Organizing Committee</b> , <i>Uncoast Unconference</i> , Des Moines, IA, Organized the first R Uncoast Unconference to bring R developers in flyover country together for a 3-day event. Over 50% of the participants at the conference were women or minorities, and participants included students, academics, and industry R programmers with a variety of experience levels in R programming.
2017	
2019	<b>Council of Sections Representative</b> , <i>Section on Statistical Graphics</i> , ASA

## Institution

2024	<b>Member</b> , <i>Faculty Senate</i> , Executive Committee
2027	
2023	<b>Member</b> , <i>Ad-Hoc Committee on EM 16</i> , Faculty Senate
2024	
2022	<b>Representative</b> , <i>Statistics Department</i> , Faculty Senate
2021	<b>Vice-Chair</b> , <i>Statistics Department Representative</i> , Faculty Advisory Council
2022	
2021	<b>Member</b> , <i>Digital Ag Minor Committee</i>
2021	<b>Member</b> , <i>Data Science Joint Committee</i> , Committee of Math, Computer Science, and Statistics departments to develop a comprehensive undergraduate data science program
2020	<b>Poster Judge</b> , <i>SCIL 101</i> , Fall Semester

## Department

2021	<b>Member</b> , <i>MS Comprehensive Exam Committee</i>
2022	
2021	<b>Coordinator</b> , <i>R workshops</i> , University of Nebraska Lincoln, Develop and coordinate a week of R workshops taught in January and May each year
2020	<b>Organizer</b> , <i>Seminar</i> , Statistics Department
2021	
2019	<b>Member</b> , <i>Undergraduate Program Committee</i> , Statistics Department, Design the undergraduate statistics program, propose new classes to support the program, and submit proposals to the university for new courses and programs.
2020	

Reviewing I have provided peer reviews for CRC/Chapman & Hall Book, IEEE InfoVis, Journal of Computational and Graphical Statistics, R Journal, Forensic Science International, Symmetry, Forensic Sciences Research, Law, Probability, and Risk, Harvard Data Science Review, Journal of the American Statistical Association, The American Statistician

## Professional Development

2023	<b>Digital Accessibility Training</b> , <i>Online training - creating accessible digital content</i>
2022	
2023	<b>Faculty Fellow</b> , <i>Nebraska Governance and Technology Center</i>
2021	<b>Peer Review of Teaching Program</b> , <i>Create a course portfolio for Stat 850 in order to assess course design and analyze student engagement and learning</i>
2022	
2020	<b>New Faculty Development Program</b>

