

# Susan Vanderplas

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## Curriculum Vitae

### Education

2009 2015	<b>Ph.D.</b> , <i>Statistics</i> , Iowa State University
2009 2011	<b>MS</b> , <i>Statistics</i> , Iowa State University
2005 2009	<b>BS</b> , <i>Psychology &amp; Applied Mathematical Sciences</i> , Texas A&M University

### Professional Experience

Aug 2024 Present	<b>Associate Professor</b> , <i>Statistics</i> , University of Nebraska-Lincoln
2020 Aug 2024	<b>Assistant Professor</b> , <i>Statistics</i> , University of Nebraska-Lincoln
Feb 2018 Dec 2019	<b>Research Assistant Professor</b> , <i>Center for Statistics and Applications in Forensic Evidence</i> , Iowa State University
Aug 2015 Feb 2018	<b>Statistical Analyst</b> , Nebraska Public Power District
Apr 2015 Oct 2015	<b>Postdoc</b> , <i>Office of the Vice President for Research</i> , 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

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). URL: <https://www.pnas.org/doi/full/10.1073/pnas.2401326121> (visited on 11/18/2024).  
**Contribution:** Programming and analysis (80%), Writing (80%).
25. 2024  
Wiederich, Tyler and Vanderplas, Susan (Apr. 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). URL: <http://libproxy.unl.edu/login?url=https://search.ebscohost.com/login.aspx?direct=true&db=aph&AN=177767913&site=ehost-live> (visited on 11/18/2024).  
**Contribution:** Programming and analysis (40%), Writing (60%), Advising (100%).
24. 2024  
Li, Weihao\*, Cook, Dianne, Tanaka, Emi, and VanderPlas, Susan (May 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. URL: <https://www.tandfonline.com/>

[doi/abs/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. 2024). "One Model That Fits Them All: Psychometrics With Generalized Linear Mixed Effects Models". In: *Electronic Imaging* 36, pp. 1–8. ISSN: 2470-1173. DOI: [10.2352/EI.2024.36.1.VDA-358](https://doi.org/10.2352/EI.2024.36.1.VDA-358). URL: <https://library.imaging.org/ei/articles/36/1/VDA-358> (visited on 08/28/2024).  
**Contribution:** Advising 10%.
22. 2024 ● Rogers, Rachel\* and **VanderPlas, Susan** (May 2024). "Demonstrative Evidence and the Use of Algorithms in Jury Trials". In: *Journal of Data Science* 22.2, pp. 314–332. ISSN: 1680-743X, 1683-8602. 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\* (2024). "Escaping Flatland: Graphics, Dimensionality, and Human Perception". In: *Human Interface and the Management of Information*. Ed. by Hirohiko Mori and Yumi Asahi. Cham: Springer Nature Switzerland 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. 1, 2024). "Misuse of statistical method results in highly biased interpretation of forensic evidence in Guyll et al. (2023)". In: *Law, Probability and Risk* 23.1, mgad010. ISSN: 1470-8396. 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. 2023 ● 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. 2022 ● 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. 2022 ● 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. 2021 ● 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. 2021  
**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>.
11. 2020  
**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>.
10. 2020  
**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>.
9. 2020  
**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>.
8. 2019  
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. 2019  
**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>.
6. 2018  
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>.
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>.
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>.
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>.










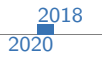


1.  Hull, Rachel, Bortfeld, Heather, and **Koons, Susan** (2009). "Near-infrared spectroscopy and cortical responses to speech production". In: *The open neuroimaging journal* 3, p. 26. DOI: <https://doi.org/10.2174/1874440000903010026>.

## Other Publications

4.  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.  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.  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.  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.

-  **courtr**, Tools to create visually appealing courtroom studies, <https://github.com/rachelesrogers/courtr>
-  **highlightr**, Analysis of edited text data, <https://github.com/rachelesrogers/highlightr>
-  **ggpcp**, Generalized parallel coordinate plots, <https://github.com/heike/ggpcp>
-  **vinference**, Analysis of visual inference experiments, <https://github.com/heike/vinference>
-  **groovefinder**, Identification of grooves in scans of bullet land engraved areas, <https://github.com/heike/groovefinder>
-  **cmcR**, Automated matching of 3d cartridge case scans using the congruent matching cells algorithm, <https://github.com/CSAFE-ISU/cmcR>
-  **bulletxtctr**, Automated matching of 3d bullet scans, <https://github.com/heike/bulletxtctr>
-  **x3ptools**, Reading, manipulating, and visualizing x3p files, <https://github.com/heike/x3ptools>
-  **bulletsamplr**, Resampling of bullet signatures, <https://github.com/srvanderplas/bulletsamplr>
-  **ShoeScrapeR**, Acquisition of shoe images and metadata from online retailers, <https://github.com/srvanderplas/shoescraper>
-  **ImageAlignR**, Image registration algorithms for forensics, <https://github.com/srvanderplas/imagealignr>
-  **animint**, Animated, interactive web graphics for R using ggplot2 and d3.js, <https://github.com/tdhock/animint>

## Grants

## Under Review

2024

**NSF: CAREER**, *What Do You See? Perception, Decisions, and Statistical Graphics*, PI, Total: \$666,485

## Funded

2021

**NIJ: R&D In Forensic Science**, *Automatic Acquisition and Identification of Footwear Class Characteristics*, PI, Total: \$380,650

2021

**USDA-NIFA: Agriculture and Food Research Initiative**, *Corn Residue Adaptive Grazing Strategies*, Collaborator, Total: \$300,000

2020

**NIST: Center for Statistics and Applications in Forensic Evidence**, *Footwear Class Characteristics and Human Factors*, PI, Total: \$20,000,000, Sub: \$456,930

2021

**USDA-NRCS: Conservation Innovation Grant On-Farm Trials**, *Improving the Economic and Ecological Sustainability of US Crop Production through On-Farm Precision Experimentation*, PI, Total: \$4,000,000, Sub: \$400,000 (Split between 3 UNL co-PIs)

2020

**NSF: Smart and Connected Communities**, *Overcoming the Rural Data Deficit to Improve Quality of Life and Community Services in Smart & Connected Small Communities*, PI, Total: \$1,500,000, Sub: \$123,445

2019

**NIJ: R&D In Forensic Science**, *Statistical Infrastructure for the Use of Error Rate Studies in the Interpretation of Forensic Evidence*, Collaborator, Total: \$197,699, Sub: \$57,596

## Not Funded

2023

**NSF: CAREER**, *What Do You See? Perception, Decisions, and Statistical Graphics*, PI, Total: \$666,485

2022

**NIJ: R&D In Forensic Science**, *Physical Simulation of Lower Body Biomechanics for Artificial Shoe Wear and Forensics Analysis*, Co-PI, Total: \$299,859, Sub: \$73,693

2020

**USDA-NIFA: Agriculture and Food Research Initiative**, *Practical Framework to Facilitate Adoption of In-Season N Management Technology in Commercial Fields*, Collaborator, Total: \$300,000

2020

**NSF: National Artificial Intelligence Research Institutes**, *AI Institute: AgroAI: The Institute for Advancing Agriculture and Food in a Changing World Using AI*, Collaborator, Total: \$20,000,000

2019

**USDA-AFRI: Sustainable Agricultural Systems**, *A Cyber-Physical System for Data-Intensive Farm Management*, PI, Total: \$3,000,000

2018


**NIJ: R&D In Forensic Science**, *Evaluating Photogrammetry for 3D Footwear Impression Recovery*, PI, Total: \$281,755

## 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	<b>Escaping Flatland: Graphics, Dimensionality, and Human Perception</b>  , <i>Human Computer Interaction International</i> , Washington DC
2024	<b>Cultivating Insights: Harnessing the Power of Data Visualization in Agriculture</b>  , <i>International Conference for On-Farm Precision Experimentation</i> , Corpus Christie, TX
2023	<b>Multimodal User Testing: Producing comprehensive, task-focused guidelines for chart design</b>  , <i>Australian Statistical Conference</i> , Wollongong, NSW, AUS
2023	<b>How Do You Define a Circle? Perception and Computer Vision Diagnostics</b>  , <i>International Association for Statistical Computing</i> , Asian Regional Section Meeting, Macquarie, NSW, AUS
2023	<b>Multimodal User Testing: Producing comprehensive, task-focused guidelines for chart design</b>  , <i>International Conference on Data Science</i> , Universidad Diego Portales, Chile
2023	<b>Testing Statistical Graphics</b>  , <i>JSM</i> , Section on Statistical Graphics, Toronto, ON, CA
2021	<b>How do you define a circle? Perception and Computer Vision Diagnostics</b>  , <i>JSM</i> , Section on Statistical Graphics, Seattle, WA
2021	<b>Pandemics, Graphics, and Perception of Log Scales</b>  , <i>R Ladies DC</i> , Washington, DC
2020	<b>Perception and Visual Communication in a Global Pandemic</b>  , <i>Data Science, Statistics, and Visualization</i> , SAMSI, Online
2020	<b>One of these things is not like the others: Visual Statistics and Testing in Statistical Graphics</b>  , <i>Data Science Symposium</i> , South Dakota State University, Brookings, SD
2020	<b>Big Data, Big Experiments, and Big Problems</b>  , <i>Plant and Animal Genome</i> , San Diego, CA
2019	<b>Statistical Lineups for Bayesians</b>  , <i>JSM</i> , Section on Statistical Graphics, Denver, CO
2018	<b>Clusters Beat Trend!? Testing Feature Hierarchy in Statistical Graphics</b>  , <i>SDSS</i> , Reston, VA
2015	<b>Animint: Interactive Web-Based Animations using Ggplot2's Grammar of Graphics</b>  , <i>JSM</i> , Section on Statistical Graphics, Seattle, WA
2014	<b>The curse of three dimensions: Why your brain is lying to you</b>  , <i>JSM</i> , Section on Statistical Graphics, Boston, MA
	Contributed
2022	<b>Local Population Footwear Class Characteristics - An End-to-End Pipeline for Automatic Data Acquisition and Analysis</b>  , <i>International Association for Identification Meeting</i> , Omaha, NE
2022	<b>From Scans to Scores</b> , <i>International Association for Identification Meeting</i> , Omaha, NE
2022	<b>How do you define a circle? Perception and Computer Vision Diagnostics</b>  , <i>SDSU Data Science Symposium</i> , South Dakota State University, Brookings, SD
2021	<b>Welcome to Forensic Statistics</b>  , <i>Data Mishaps Night</i> , Online
2018	<b>Framed Charts in the 1870 Statistical Atlas</b>  , <i>JSM</i> , Section on Statistical Graphics, Vancouver, BC, CA
2017	<b>A Bayesian Approach to Visual Inference</b> , <i>JSM</i> , Section on Statistical Graphics, Baltimore, MD
2016	<b>Clusters Beat Trend!? Testing Feature Hierarchy in Statistical Graphics</b>  , <i>JSM</i> , Section on Statistical Graphics, Chicago, IL
2015	<b>Visual Aptitude and Statistical Graphics</b> , <i>InfoVis</i> , 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

**Susan Vanderplas** [📄](#), *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

**Reproducible Science: Statistics, Forensics, and the Law** [📄](#), *Statistics*, University of Nebraska - Lincoln, Lincoln, NE

2022

**How to make good charts** [📄](#), *Complex Biosystems*, University of Nebraska - Lincoln, Lincoln, NE

2022

**Pandemics, Graphics, and Perception of Log Scales** [📄](#), *Math*, University of Nebraska - Omaha, Omaha, NE

2022

**Automatic Acquisition of Footwear Class Characteristics** [📄](#), *Center for Statistical Applications in Forensic Evidence*, Online

2021

**Pandemics, Graphics, and Perception of Log Scales** [📄](#), *NUMBATS*, Monash University, Melbourne, Vic, AUS

2021

**Exploring Rural Quality of Life Using Data Science and Public Data** [📄](#), *QQPM*, University of Nebraska - Lincoln, Lincoln, NE

2021

**Inconclusive Conclusions: Biases and Consequences** [📄](#), *Law and Psychology Brown Bag*, University of Nebraska - Lincoln, Lincoln, NE

2021

**Visual Statistics: Communication and Graphical Testing** [📄](#), *Animal Science*, University of Nebraska - Lincoln, Lincoln, NE

2021

**How to Make Good Charts** [📄](#), *Biological and Systems Engineering GSA*, University of Nebraska - Lincoln, Lincoln, NE

2020

**Statistical Evaluation of Firearms and Toolmark Evidence** [📄](#), *Statistics*, University of Nebraska - Lincoln, Lincoln, NE

## Teaching

- 2024 **STAT 151**, *Introduction to Statistical Computing*, University of Nebraska - Lincoln, Flipped synchronous
- 2024 **STAT 251**, *Data Wrangling*, University of Nebraska - Lincoln, Flipped synchronous
- 2024 **STAT 892**, *Writing in Statistics/TA Prep*, University of Nebraska - Lincoln, In person synchronous
- 2024 **Stat 992**, *Special Topics in Data Visualization*, University of Nebraska Lincoln, In person synchronous
- 2023 **STAT 151**, *Introduction to Statistical Computing*, University of Nebraska - Lincoln, Flipped synchronous. Evals: 4.55 (mean), 5 (median)
- 2023 **STAT 251**, *Data Wrangling*, University of Nebraska - Lincoln, Flipped synchronous. Evals: 4.30 (mean), 5 (median)
- 2023 **STAT 892**, *Data Technologies for Statistical Analysis*, University of Nebraska - Lincoln, Co-taught with ISU Stat 585, Hybrid synchronous
- 2023 **STAT 850**, *Computing Tools for Statisticians*, University of Nebraska - Lincoln, Flipped synchronous. Evals: 4.31 (mean), 5 (median)
- 2023 **STAT 892**, *Writing in Statistics/TA Prep*, University of Nebraska - Lincoln, In person synchronous. Evals: 4.13 (mean), 4 (median)
- 2022 **STAT 151**, *Introduction to Statistical Computing*, University of Nebraska - Lincoln, Flipped synchronous. Evals: 4.95 (mean), 5 (median)
- 2022 **STAT 218**, *Introduction to Statistics*, University of Nebraska - Lincoln, Online asynchronous. Evals: 3.72 (mean), 4 (median)
- 2022 **STAT 850**, *Computing Tools for Statisticians*, University of Nebraska - Lincoln, Flipped synchronous. Evals: 4.33 (mean), 5 (median)
- 2022 **STAT 892**, *Writing in Statistics/TA Prep*, University of Nebraska - Lincoln, In person synchronous. Evals: 4.29 (mean), 5 (median)
- 2022 **STAT 982**, *Advanced Inference*, University of Nebraska - Lincoln, Co-taught with Bertrand Clarke. Evals: 4.34 (mean), 5 (median)
- 2021 **STAT 218**, *Introduction to Statistics*, University of Nebraska - Lincoln, Online asynchronous.. Evals: 4.01 (mean), 4 (median)
- 2021 **STAT 850**, *Computing Tools for Statisticians*, University of Nebraska - Lincoln, Hybrid, flipped, synchronous. Evals: 4.79 (mean), 5 (median)
- 2020 **STAT 218**, *Introduction to Statistics*, University of Nebraska - Lincoln, Initially in person synchronous, then online asynchronous. Evals: 4.20 (mean), 4 (median)
- 2020 **STAT 850**, *Computing Tools for Statisticians*, University of Nebraska - Lincoln, Hybrid, flipped, synchronous. Evals: 4.76 (mean), 5 (median)
- 2019 **STAT 585**, *Data Technologies for Statistical Analysis*, Iowa State, Co-taught with Heike Hofmann. Evals: 4.92 (mean), 5 (median)

## Mentoring

Ph.D.

- 2023 **Tyler Wiederich**, *Perception of Three Dimensional Graphics*, University of Nebraska - Lincoln
- 2023 **Muxin Ha**, *Automatic Recognition of Shoe Class Characteristics*, 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
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 Undergraduate
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 Summer
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

**Ben Wonderlin, Jenny Kim**, *Footwear Class Characteristics and Computer Vision*, Young Engineers and Scientists Program, Iowa State University

## Service

### Discipline

2024

**Organizer**, *Nebraska R User Group (NEBRUG)*, Co-chair, Group for R users across Nebraska to connect and learn new skills.

2023

**Member**, *Advisory Committee on Forensic Science*, ASA

2025

2023

**Chair**, *Section on Statistical Graphics*, ASA

2024

2022

**Chair-Elect**, *Section on Statistical Graphics*, ASA

2023

2021

**Associate Editor**, *Journal of Computational and Graphical Statistics*

2024

2020

**Associate Editor**, *R Journal*

2026

2020

**Program Chair**, *Section on Statistical Graphics*, ASA

2022

2020

**Program Committee (Graphics)**, *Symposium on Data Science and Statistics (2020)*

2019

2021

**Member**, *Gertrude Cox Scholarship Committee*, ASA

2019

**Organizing Committee**, *Uncoast Unconference*, 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

**Council of Sections Representative**, *Section on Statistical Graphics*, ASA

### Institution

2024

2027

**Member**, *Faculty Senate*, Executive Committee

2023

**Member**, *Ad-Hoc Committee on EM 16*, Faculty Senate

2022

**Representative**, *Statistics Department*, Faculty Senate

2021

2022

**Vice-Chair**, *Statistics Department Representative*, Faculty Advisory Council

2021

**Member**, *Digital Ag Minor Committee*

2021

**Member**, *Data Science Joint Committee*, Committee of Math, Computer Science, and Statistics departments to develop a comprehensive undergraduate data science program

2020

**Poster Judge**, *SCIL 101*, Fall Semester

### Department

2021

2022

**Member**, *MS Comprehensive Exam Committee*

2021

**Coordinator**, *R workshops*, University of Nebraska Lincoln, Develop and coordinate a week of R workshops taught in January and May each year

2020

2021

**Organizer**, *Seminar*, Statistics Department

2019

2020

**Member**, *Undergraduate Program Committee*, 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.

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

