

Susan Vanderplas

343D Hardin Hall North Wing
3310 Holdrege Street
Lincoln, NE 68483-0961
402-472-7290
✉ susan.vanderplas@unl.edu
🌐 srvanderplas.github.io
🐙 [srvanderplas](https://github.com/srvanderplas)

Curriculum Vitae

Education

- 2009 — 2015 **Ph.D.**, *Statistics*, Iowa State University
- 2009 — 2011 **MS**, *Statistics*, Iowa State University
- 2005 — 2009 **BS**, *Psychology & Applied Mathematical Sciences*, Texas A&M University

Professional Experience

- Aug 2024 — Present **Associate Professor**, *Statistics*, University of Nebraska-Lincoln
- 2020 — Aug 2024 **Assistant Professor**, *Statistics*, University of Nebraska-Lincoln
- Feb 2018 — Dec 2019 **Research Assistant Professor**, *Center for Statistics and Applications in Forensic Evidence*, Iowa State University
- Aug 2015 — Feb 2018 **Statistical Analyst**, Nebraska Public Power District
- Apr 2015 — Oct 2015 **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

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.


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>.










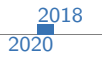


1.  Hull, Rachel, Bortfeld, Heather, and **Koons, Susan** (2009). "Near-infrared spectroscopy and cortical responses to speech production". In: *The open neuroimaging journal* 3, p. 26. DOI: <https://doi.org/10.2174/1874440000903010026>.

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

2014	Do You See What I See? Using Shiny for User Testing 📄 , <i>JSM</i> , Section on Statistical Graphics, Boston, MA
2014	Animint: Interactive, Web-Ready Graphics with R 📄 , <i>Great Plains R User Group</i> , Sioux Center, IA
2013	Signs of the Sine Illusion – why we need to care , <i>JSM</i> , Section on Statistical Graphics, Montreal, ON, CA
	Seminars
2024	Susan Vanderplas 📄 , <i>Undergraduate Creative Activities and Research Experience</i> , Lincoln, NE
2024	Creating Good Graphics 📄 , <i>UNL REU seminar</i> , University of Nebraska Lincoln, Lincoln, NE
2024	Graphical Perception in a Pandemic: Log Scales, Exponential Growth, and the Importance of User Testing , <i>University of Illinois Chicago School of Public Health</i> , Epidemiology and Biostatistics Seminar, Chicago, IL (Online)
2024	Building a CV/Blog Automatically 📄 , <i>Graphics Group</i> , University of Nebraska, Online
2024	Building a CV with R and Google Sheets 📄 , <i>Graphics Group</i> , University of Nebraska, Online
2024	Using Git Submodules 📄 , <i>Graphics Group</i> , University of Nebraska, Online
2023	Graphics and Cognition: How Do We Perceive Charts? 📄 , <i>Graphics Group</i> , 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 📄 , <i>Center for Brain, Biology, and Behavior</i> , University of Nebraska, Lincoln, NE
2023	Inconclusive Conclusions: Biases and Consequences 📄 , <i>Biostatistics</i> , Johns Hopkins University, Baltimore, MD
2022	Reproducible Science: Statistics, Forensics, and the Law 📄 , <i>Statistics</i> , University of Nebraska - Lincoln, Lincoln, NE
2022	How to make good charts 📄 , <i>Complex Biosystems</i> , University of Nebraska - Lincoln, Lincoln, NE
2022	Pandemics, Graphics, and Perception of Log Scales 📄 , <i>Math</i> , University of Nebraska - Omaha, Omaha, NE
2022	Automatic Acquisition of Footwear Class Characteristics 📄 , <i>Center for Statistical Applications in Forensic Evidence</i> , Online
2021	Pandemics, Graphics, and Perception of Log Scales 📄 , <i>NUMBATS</i> , Monash University, Melbourne, Vic, AUS
2021	Exploring Rural Quality of Life Using Data Science and Public Data 📄 , <i>QQPM</i> , University of Nebraska - Lincoln, Lincoln, NE
2021	Inconclusive Conclusions: Biases and Consequences 📄 , <i>Law and Psychology Brown Bag</i> , University of Nebraska - Lincoln, Lincoln, NE
2021	Visual Statistics: Communication and Graphical Testing 📄 , <i>Animal Science</i> , University of Nebraska - Lincoln, Lincoln, NE
2021	How to Make Good Charts 📄 , <i>Biological and Systems Engineering GSA</i> , University of Nebraska - Lincoln, Lincoln, NE
2020	Statistical Evaluation of Firearms and Toolmark Evidence 📄 , <i>Statistics</i> , 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	Denise Bradford , <i>Dashboards for Exploratory Multivariate Data Analysis</i> , University of Nebraska - Lincoln
2022 2024	Weihao (Patrick) Li , <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	Rachel Rogers , <i>Explainable Machine Learning for Forensics in Courtrooms</i> , University of Nebraska - Lincoln
2020 2023	Alison Kleffner , <i>Spatial Statistics and Visualization in Ecology and Agriculture</i> , co-advised with Yawen Guan, University of Nebraska - Lincoln
2020 2023	Joseph Zemmels , <i>Analysis and Matching of Cartridge Cases</i> , co-advised with Heike Hofmann, Iowa State University
2020 2022	Emily Robinson , <i>Perception of Log Scales</i> , co-advised with Reka Howard, University of Nebraska - Lincoln MS
2023	Carson Trego , <i>A Statistical Approach to Learning Computer Vision</i> , University of Nebraska - Lincoln
2023	Maksuda Aktar Toma , <i>An Historical Analysis of Pie and Bar Chart Experiments</i> , University of Nebraska Lincoln
2023	Dinuwanthi Lianage , University of Nebraska
2022 2023	Tyler Wiederich , <i>Perception of Three Dimensional Graphics</i> , University of Nebraska - Lincoln
2022 2023	Muxin Ha , <i>Automatic Recognition of Shoe Class Characteristics</i> , University of Nebraska - Lincoln
2021 2022	Jayden Stack , <i>Automatic Recognition of Shoe Class Characteristics</i> , University of Nebraska - Lincoln
2020	Ved Piyush , <i>Machine Learning and Computer Vision</i> , University of Nebraska - Lincoln
2019 2020	Joseph Zemmels , <i>Analysis and Matching of Cartridge Cases</i> , co-advised with Heike Hofmann, Iowa State University
2019 2020	Eryn Blagg , <i>Analysis of Wear Development in Three-Dimensional Shoe Scans</i> , co-advised with Heike Hofmann, Iowa State University
2018 2019	Miranda Tilton , <i>Footwear Class Characteristics and Computer Vision</i> , Iowa State University Undergraduate
2021	Xinyu Liu , <i>Machine Learning for Shoe Sole Images</i> , UNL FYRE Program, University of Nebraska - Lincoln
2019	Jason Seo , <i>R package for visualization of neural networks using the python library keras-vis</i> , Iowa State University
2018 2019	Talen Fisher , <i>Database engineering and tools for working with x3p files</i> , Iowa State University Summer
2019	Molly McDermott and Andrew Maloney , <i>Bullet Scan Quality and Machine Learning</i> , Iowa State University
2019	Syema Ailia, Emmanuelle Hernandez Morales, Tiger Ji , <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

2023

2022

2021

2020

2020

Professional Development

Digital Accessibility Training, *Online training - creating accessible digital content*

Faculty Fellow, *Nebraska Governance and Technology Center*

Peer Review of Teaching Program, *Create a course portfolio for Stat 850 in order to assess course design and analyze student engagement and learning*

New Faculty Development Program

Summer Institute for Online Teaching, *Online course structure and backwards design principles*