

Susan Vanderplas

Curriculum Vitae

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)

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.

Book Chapters

1. **Vanderplas, S.**, Carriquiry, A., Hofmann, H., Hamby, J., and Tai, X. H. (May 30, 2022). "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 May 30, 2022, pp. 365–390. DOI: <https://doi.org/10.1201/9780367527709>.
Contribution: Writing (50%).

Peer Reviewed Publications

9. Cuellar, M., **Vanderplas, S.**, Luby, A., and Rosenblum, M. (Dec. 5, 2024). "Methodological problems in every black-box study of forensic firearm comparisons". In: *Law, Probability and Risk* 23.1, mgae015. ISSN: 1470-8396. DOI: <https://doi.org/10.1093/lpr/mgae015>.
Contribution: Writing (20%).
8. Ju, W., **VanderPlas, S.**, and Hofmann, H. (Jan. 24, 2024). "One Model That Fits Them All: Psychometrics With Generalized Linear Mixed Effects Models". In: *Electronic Imaging* 36, pp. 1–8. DOI: <https://doi.org/10.2352/EI.2024.36.1.VDA-358>.
Contribution: Advising 10%.
7. Li, W.*, Cook, D., Tanaka, E., and **VanderPlas, S.** (May 22, 2024). "A Plot Is Worth a Thousand Tests: Assessing Residual Diagnostics with the Lineup Protocol". In: *Journal of Computational and Graphical Statistics*, pp. 1497–1511. ISSN: 1061-8600. DOI: <https://doi.org/10.1080/10618600.2024.2344612>.
Contribution: Advising 10%.
6. Rogers, R.* and **VanderPlas, S.** (May 2, 2024). "Demonstrative Evidence and the Use of Algorithms in Jury Trials". In: *Journal of Data Science* 22.2, pp. 314–332. DOI: <https://doi.org/10.6339/24-JDS1130>.
Contribution: Writing 20%, Advising 100%.
5. Rosenblum, M., Chin, E. T., Ogburn, E. L., Nishimura, A., Westreich, D., Datta, A., **Vanderplas, S.**, Cuellar, M., and Thompson, W. C. (Jan. 9, 2024a). "Misuse of statistical method results in highly biased interpretation of forensic evidence in Gyll et al. (2023)". In: *Law, Probability and Risk* 23.1, mgad010. DOI: <https://doi.org/10.1093/lpr/mgad010>.
Contribution: Writing (10%). This paper is a collaboration between all authors resulting from discussions about the Gyll et al. paper.
4. — (Nov. 5, 2024b). "Incorrect statistical reasoning in Gyll et al. leads to biased claims about strength of forensic evidence". In: *Proceedings of the National Academy of Sciences* 121.45, e2315431121. DOI: <https://doi.org/10.1073/pnas.2315431121>.
3. **Vanderplas, S.**, Blankenship, E., and Wiederich, T.* (July 1, 2024). "Escaping Flatland: Graphics, Dimensionality, and Human Perception". In: *Human Interface and the Management of Information*. Ed. by H. Mori and Y. Asahi. Springer Nature Switzerland July 1, 2024, pp. 140–156. ISBN: 978-3-031-60114-9. DOI: https://doi.org/10.1007/978-3-031-60114-9_11.
Contribution: Writing 100%, Analysis 70%.
2. **Vanderplas, S.**, Carriquiry, A., and Hofmann, H. (June 10, 2024). "Hidden Multiple Comparisons Increase Forensic Error Rates". In: *Proceedings of the National Academy of Sciences* 121.25, e2401326121. DOI: <https://doi.org/10.1073/pnas.2401326121>.
Contribution: Programming and analysis (50%), Writing 70%.
1. Wiederich, T.* and **Vanderplas, S.** (Apr. 24, 2024). "Evaluating Perceptual Judgements on 3D Printed Bar Charts". In: *Journal of Data Science* 22.2, pp. 176–190. ISSN: 1680743X. DOI: <https://doi.org/10.6339/24-JDS1131>.
Contribution: Programming and analysis (40%), Writing (60%), Advising (100%).

4. Robinson, E.*, Howard, R., and **VanderPlas, S.** (Jan. 12, 2023a). “You Draw It: Implementation of visually fitted trends with r2d3”. In: *Journal of Data Science* 21 (2), pp. 281–294. ISSN: 1680-743X. DOI: <https://doi.org/10.6339/22-JDS1083>.
Contribution: Writing (10%), Advising (80%).
 3. Robinson, E. A.*, Howard, R., and **VanderPlas, S.** (Oct. 2, 2023b). “Eye Fitting Straight Lines in the Modern Era”. In: *Journal of Computational and Graphical Statistics* 32.4, pp. 1537–1544. ISSN: 1061-8600. DOI: <https://doi.org/10.1080/10618600.2022.2140668>.
Contribution: Programming and analysis (10%), Writing (10%), Advising (60%).
 2. **VanderPlas, S.**, Ge, Y.*, Unwin, A., and Hofmann, H. (Apr. 21, 2023). “Penguins Go Parallel: a grammar of graphics framework for generalized parallel coordinate plots”. In: *Journal of Computational and Graphical Statistics* 32.4, pp. 1572–1587. DOI: <https://doi.org/10.1080/10618600.2023.2195462>.
Contribution: Writing (50%).
 1. Zemmels, J.*, **Vanderplas, S.**, and Hofmann, H. (Feb. 9, 2023). “A Study in Reproducibility: The Congruent Matching Cells Algorithm and cmcR package”. In: *R Journal* 14 (4), pp. 79–102. DOI: <https://doi.org/10.32614/RJ-2023-014>.
Contribution: Programming and analysis (10%), Writing (20%), Advising (40%).
- 2022
2. Bradford, D.* and **VanderPlas, S.** (Dec. 2022). “Exploring Rural Shrink Smart Through Guided Discovery Dashboards”. In: *Journal of Data Science*, pp. 1–12. ISSN: 1680-743X. DOI: <https://doi.org/10.6339/22-JDS1080>.
Contribution: Programming and analysis (10%), Writing (10%), Advising (100%).
 1. Wilhelm, A. and **VanderPlas, S.** (Nov. 1, 2022). “Visual Narratives of the Covid-19 pandemic”. In: *Journal of Data Science, Statistics, and Visualisation* 2.7, pp. 84–113. DOI: <https://doi.org/10.52933/jdssv.v2i7.64>.
Contribution: Writing (60%).
- 2021
2. Hofmann, H., Carriquiry, A., and **Vanderplas, S.** (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%).
 1. **Vanderplas, S.**, Röttger, C., Cook, D., and Hofmann, H. (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%).
- 2020
2. **Vanderplas, S.**, Cook, D., and Hofmann, H. (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%).
 1. **Vanderplas, S.**, Nally, M., Klep, T., Cadevall, C., and Hofmann, H. (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%).

- pre 2020
8. Rutter, L., **Vanderplas, S.**, Cook, D., and Graham, M. (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. Sievert, C., **Vanderplas, S.**, Cai, J., Ferris, K., Khan, F. U. F., and Hocking, T. D. (Apr. 1, 2019). "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>.
 6. **Vanderplas, S.**, Goluch, R. C., and Hofmann, H. (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%).
 5. **Vanderplas, S.** and Hofmann, H. (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. **VanderPlas, S.** and Hofmann, H. (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. **Vanderplas, S.** and Hofmann, H. (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. Towfic, F., **Vanderplas, S.**, Oliver, C. A., Couture, O., Tuggle, C. K., Greenlee, M. H. W., and Honavar, V. (Apr. 29, 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, R., Bortfeld, H., and **Koons, S.** (Apr. 3, 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, S. (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, A., Hofmann, H., Tai, X. H., and **Vanderplas, S.** (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, H. and **Vanderplas, S.** (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, S., **Vanderplas, S.**, and Cook, D. (June 13, 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.

2024	courtr , Tools to create visually appealing courtroom studies, https://github.com/rachelesrogers/courtr
2023	highlightr , Analysis of edited text data, https://github.com/rachelesrogers/highlightr
2021	ggpcp , Generalized parallel coordinate plots, https://github.com/heike/ggpcp
2020	vinference , Analysis of visual inference experiments, https://github.com/heike/vinference
2019 21	groovefinder , Identification of grooves in scans of bullet land engraved areas, https://github.com/heike/groovefinder
2019	cmcR , Automated matching of 3d cartridge case scans using the congruent matching cells algorithm, https://github.com/CSAFE-ISU/cmcR
2018	bulletxtrctr , Automated matching of 3d bullet scans, https://github.com/heike/bulletxtrctr
2018	x3ptools , Reading, manipulating, and visualizing x3p files, https://github.com/heike/x3ptools
2018	bulletsamplr , Resampling of bullet signatures, https://github.com/srvanderplas/bulletsamplr
2018 20	ShoeScrapeR , Acquisition of shoe images and metadata from online retailers, https://github.com/srvanderplas/shoescraper
2018 21	ImageAlignR , Image registration algorithms for forensics, https://github.com/srvanderplas/imagealignr
2013 15	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 2023	NIJ: R&D In Forensic Science , <i>Automatic Acquisition and Identification of Footwear Class Characteristics</i> , PI, Total: \$380,650
2021 2022	USDA-NIFA: Agriculture and Food Research Initiative , <i>Corn Residue Adaptive Grazing Strategies</i> , Collaborator, Total: \$300,000
2020 2025	NIST: Center for Statistics and Applications in Forensic Evidence , <i>Footwear Class Characteristics and Human Factors</i> , PI, Total: \$20,000,000, Sub: \$456,930
2021 2023	USDA-NRCS: Conservation Innovation Grant On-Farm Trials , <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	NSF: Smart and Connected Communities , <i>Overcoming the Rural Data Deficit to Improve Quality of Life and Community Services in Smart & Connected Small Communities</i> , PI, Total: \$1,500,000, Sub: \$123,445
2019 2020	NIJ: R&D In Forensic Science , <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 , <i>Graphics Section, American Statistical Association</i>
------	----------------------------------------------------------------------------------------

Talks

 provides a link to slides, where available

Invited

2024	Web Scraping Olympics: Python  , <i>Statistical Computing Section Mini-Symposium</i> , Online
2024	A Plot is Worth a Thousand Tests: Assessing Residual Diagnostics with the Lineup Protocol  , <i>JSM</i> , 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	Creating Effective Graphics 📄 , <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, Epidemiology and Biostatistics Seminar</i> , 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 , <i>Introduction to Statistical Computing</i> , University of Nebraska - Lincoln, Flipped synchronous
2024	STAT 251 , <i>Data Wrangling</i> , University of Nebraska - Lincoln, Flipped synchronous

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

Mentoring

Ph.D.

2023	Tyler Wiederich , <i>Perception of Three Dimensional Graphics</i> , University of Nebraska - Lincoln
2023	Muxin Ha , <i>Automatic Recognition of Shoe Class Characteristics</i> , 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 , <i>Footwear Class Characteristics and Computer Vision</i> , Young Engineers and Scientists Program, Iowa State University

Service

Discipline

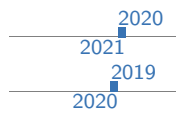
2024	Organizer , <i>Nebraska R User Group (NEBRUG)</i> , Co-chair, Group for R users across Nebraska to connect and learn new skills.
2023	Member , <i>Advisory Committee on Forensic Science</i> , ASA
2025	Chair , <i>Section on Statistical Graphics</i> , ASA
2023	Chair-Elect , <i>Section on Statistical Graphics</i> , ASA
2024	Associate Editor , <i>Journal of Computational and Graphical Statistics</i>
2022	Associate Editor , <i>R Journal</i>
2023	Program Chair , <i>Section on Statistical Graphics</i> , ASA
2021	Program Committee (Graphics) , <i>Symposium on Data Science and Statistics (2020)</i>
2024	Member , <i>Gertrude Cox Scholarship Committee</i> , ASA
2020	Organizing Committee , <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.
2022	Council of Sections Representative , <i>Section on Statistical Graphics</i> , ASA
2020	
2019	
2021	
2019	
2017	
2019	

Institution

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

Department

2021	Member , <i>MS Comprehensive Exam Committee</i>
2022	Coordinator , <i>R workshops</i> , University of Nebraska Lincoln, Develop and coordinate a week of R workshops taught in January and May each year
2021	

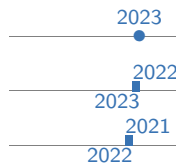


Organizer, Seminar, Statistics Department

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

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*