# 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

## Publications

### Peer Reviewed Publications

Student advisees indicated with *.

2025

4. Fudolig, M. A., Robinson, E. A.*, and **Vanderplas, S.** (Apr. 1, 2025). "Can You See The Change? Visual Perception in Change Point Analysis". In: *Journal of Computational and Graphical Statistics* (ja), pp. 1–15. DOI: 10.1080/10618600.2025.2485278.

3. Li, W., Cook, D., Tanaka, E., Vanderplas, S., and Ackermann, K. (Oct. 9, 2025). "Automated Residual Plot Assessment With the R Package autovi and the Shiny Application autovi.web". In: *Australian & New Zealand Journal of Statistics*. ISSN: 1467-842X. DOI: 10.1111/anzs.70027. URL: https://onlinelibrary.wiley.com/doi/abs/10.1111/anzs.70027.

2. Robinson, E.*, Hofmann, H., and **Vanderplas, S.** (July 17, 2025). "A Guide to Designing Experiments to Test Statistical Graphics". In: *WIREs Computational Statistics* 17.2, e70032. ISSN: 1939-0068. DOI: 10.1002/wics.70032. URL: https://onlinelibrary.wiley.com/doi/abs/10.1002/wics.70032.

1. Robinson, E. A.*, Howard, R., and **Vanderplas**, **S.** (Mar. 11, 2025). "Perception and Cognitive Implications of Logarithmic Scales for Exponentially Increasing Data: Perceptual Sensitivity Tested with Statistical Lineups". In: *Journal of Computational and Graphical Statistics* (ja), pp. 1–14. DOI: 10.1080/10618600.2025.2476097.

2024

8. 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.

7. 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.

6. 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.

5. 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.

4. 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 Guyll et al. (2023)". In: *Law, Probability and Risk* 23.1, mgad010. DOI: https://doi.org/10.1093/lpr/mgad010.

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.

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.

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.

2023

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.

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.

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.

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.

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.

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.

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.

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.

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.

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.

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.

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.

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.

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.

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.

### 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.

### Letters

1. Rosenblum, M., Chin, E. T., Ogburn, E. L., Nishimura, A., Westreich, D., Datta, A., **Vanderplas**, **S.**, Cuellar, M., and Thompson, W. C. (Nov. 5, 2024b). "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, e2315431121. DOI: https://doi.org/10.1073/pnas.2315431121.

## 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.

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.

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

2025
2030

**NSF: CAREER**, *What Do You See? Perception, Decisions, and Statistical Graphics*, PI, Total: $550,000

2021
2023

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

2021
2022

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

2020
2025

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

2021
2023

**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
2023

**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
2020

**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

## Awards

2025

**CAREER Award**, *National Science Foundation*

2012

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

## Talks

provides a link to slides, where available

### Invited

2025

**Hidden Multiple Comparisons Increase Forensic Error Rates**, *ENAR Spring Meeting*, New Orleans, Louisiana

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

2025 **Teaching Statistical Computing with R and Python** 💻, *useR!*, Durham, NC

2025 **Hidden Multiple Comparisons Increase Forensic Error Rates** 💻, *Joint Statistical Meetings*, Forensics Interest Group, Nashville, TN

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 **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

2025 **STAT 151**, *Introduction to Statistical Computing*, University of Nebraska – Lincoln, Flipped synchronous. Evals: 3.90 (mean), 4 (median)

2025 **STAT 349**, *Technical Skills for Statisticians*, University of Nebraska – Lincoln, In person synchronous. Evals: 4.00 (mean), 4 (median)

2025 **STAT 351**, *Statistical Computing II - Data Management and Visualization*, University of Nebraska – Lincoln, In person synchronous

2025 **STAT 850**, *Computing Tools for Statisticians*, University of Nebraska – Lincoln, Flipped synchronous

2024 **STAT 151**, *Introduction to Statistical Computing*, University of Nebraska – Lincoln, Flipped synchronous. Evals: 4.50 (mean), 5 (median)

2024 **STAT 251**, *Data Wrangling*, University of Nebraska – Lincoln, Flipped synchronous. Evals: 4.69 (mean), 5 (median)

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. Evals: 4.82 (mean), 5 (median)

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. Evals: 4.45 (mean), 4 (median)

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.

2024 **Harriet Mason**, Monash University

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**, *Dashboards for Exploratory Multivariate Data Analysis*, University of Nebraska - Lincoln

2022–2024 **Weihao (Patrick) Li**, *Advances in Artificial Intelligence for Data Visualization: Developing Computer Vision Models to Automate Reading of Data Plots, with Application to Predictive Model Diagnostics*, co-advised with Dianne Cook and Emi Tanaka, Monash University

2021–2024 **Rachel Rogers**, *Explainable Machine Learning for Forensics in Courtooms*, University of Nebraska - Lincoln

2020–2023 **Alison Kleffner**, *Spatial Statistics and Visualization in Ecology and Agriculture*, co-advised with Yawen Guan, University of Nebraska - Lincoln

2020–2023 **Joseph Zemmels**, *Analysis and Matching of Cartridge Cases*, co-advised with Heike Hofmann, Iowa State University

2020–2022 **Emily Robinson**, *Perception of Log Scales*, co-advised with Reka Howard, University of Nebraska - Lincoln

### MS

2024 **Maksuda Aktar Toma**, *An Historical Analysis of Pie and Bar Chart Experiments*, University of Nebraska ASCII//TRANSLITASCII//TRANSLITASCII//TRANSLIT Lincoln

2024 **Dinuwanthi Lianage**, University of Nebraska

2024 **Nicole Harms**, University of Nebraska

2022–2023 **Tyler Wiederich**, *Perception of Three Dimensional Graphics*, University of Nebraska - Lincoln

2022–2023 **Muxin Ha**, *Automatic Recognition of Shoe Class Characteristics*, University of Nebraska - Lincoln

2021
2022

**Jayden Stack**, *Automatic Recognition of Shoe Class Characteristics*, University of Nebraska - Lincoln

2020

**Ved Piyush**, *Machine Learning and Computer Vision*, University of Nebraska - Lincoln

2019
2020

**Joseph Zemmels**, *Analysis and Matching of Cartridge Cases*, co-advised with Heike Hofmann, Iowa State University

2019
2020

**Eryn Blagg**, *Analysis of Wear Development in Three-Dimensional Shoe Scans*, co-advised with Heike Hofmann, Iowa State University

2018
2019

**Miranda Tilton**, *Footwear Class Characteristics and Computer Vision*, Iowa State University

### Undergraduate

2025
2026

**Mason Chandler**, *The Quantitative Display of Insanity*, UNL Undergraduate Research Program, University of Nebraska

2024
2025

**Mason Chandler**, *An Historical Analysis of Pie and Bar Chart Experiments*, UNL FYRE Program, University of Nebraska

2024
2025

**Olivia Walker**, *An Historical Analysis of Pie and Bar Chart Experiments*, UNL FYRE Program, University of Nebraska

2021

**Xinyu Liu**, *Machine Learning for Shoe Sole Images*, UNL FYRE Program, University of Nebraska - Lincoln

2019

**Jason Seo**, *R package for visualization of neural networks using the python library keras-vis*, Iowa State University

2018
2019

**Talen Fisher**, *Database engineering and tools for working with x3p files*, Iowa State University

### Summer

2019

**Molly McDermott and Andrew Maloney**, *Bullet Scan Quality and Machine Learning*, Iowa State University

2019

**Syema Ailia, Emmanuelle Hernandez Morales, Tiger Ji**, *Rapid quality control tools for confocal microscopy scans*, 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.

2023–2025 — **Member**, *Advisory Committee on Forensic Science*, ASA

2023–2024 — **Chair**, *Section on Statistical Graphics*, ASA

2022–2023 — **Chair-Elect**, *Section on Statistical Graphics*, ASA

2021–2024 — **Associate Editor**, *Journal of Computational and Graphical Statistics*

2020–2026 — **Associate Editor**, *R Journal*

2020–2022 — **Program Chair**, *Section on Statistical Graphics*, ASA

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, 2.5 hour meetings weekly during the school year and biweekly during the summer.

2023–2024 — **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, Forensic Science International, Journal of Statistics and Data Science Education, R Journal, IEEE InfoVis, Journal of Computational and Graphical Statistics, Symmetry, Forensic Sciences Research, Law, Probability, and Risk, Harvard Data Science Review, Journal of the American Statistical Association, The American Statistician

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