

# Susan Vanderplas

## Curriculum Vitae

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### Education

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

### Professional Experience

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

### Publications

#### Peer Reviewed Publications

Student advisees indicated with \*.

2025

3. 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](https://doi.org/10.1080/10618600.2025.2485278).
2. 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](https://doi.org/10.1111/anzs.70027). URL: <https://onlinelibrary.wiley.com/doi/abs/10.1111/anzs.70027>.
1. 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](https://doi.org/10.1002/wics.70032). URL: <https://onlinelibrary.wiley.com/doi/abs/10.1002/wics.70032>.
0. 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](https://doi.org/10.1080/10618600.2025.2476097).

2024

7. 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>.
6. 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>.
5. 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>.
4. 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>.
3. 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>.

2023

2. **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](https://doi.org/10.1007/978-3-031-60114-9_11).
1. **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>.
0. 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>.
3. 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>.
2. 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>.
1. **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>.
0. 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

1. 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>.
0. 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

1. 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>.
0. **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

1. **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>.

pre 2020

0. **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>.
7. Rutter, L., **Vanderplas, S.**, Cook, D., and Graham, M. (May 29, 2019). "gge-nealogy: 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>.
6. 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>.
5. **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>.
4. **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>.
3. **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>.
2. **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>.
1. 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>.
0. 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	<b>cmcR</b> , <i>Automated matching of 3d cartridge case scans using the congruent matching cells algorithm</i> <a href="https://github.com/CSAFE-ISU/cmcR">https://github.com/CSAFE-ISU/cmcR</a>
2018	<b>bulletxtrctr</b> , <i>Automated matching of 3d bullet scans</i> <a href="https://github.com/heike/bulletxtrctr">https://github.com/heike/bulletxtrctr</a>
2018	<b>x3ptools</b> , <i>Reading, manipulating, and visualizing x3p files</i> <a href="https://github.com/heike/x3ptools">https://github.com/heike/x3ptools</a>
2018	<b>bulletsamplr</b> , <i>Resampling of bullet signatures</i> <a href="https://github.com/srvanderplas/bulletsamplr">https://github.com/srvanderplas/bulletsamplr</a>
2018 20	<b>ShoeScrapeR</b> , <i>Acquisition of shoe images and metadata from online retailers</i> <a href="https://github.com/srvanderplas/shoescraper">https://github.com/srvanderplas/shoescraper</a>
2018 21	<b>ImageAlignR</b> , <i>Image registration algorithms for forensics</i> <a href="https://github.com/srvanderplas/imagealignr">https://github.com/srvanderplas/imagealignr</a>
2013 15	<b>animint</b> , <i>Animated, interactive web graphics for R using ggplot2 and d3.js</i> <a href="https://github.com/tdhock/animint">https://github.com/tdhock/animint</a>

## Grants


### Funded

2025 2030	<b>NSF: CAREER</b> , <i>What Do You See? Perception, Decisions, and Statistical Graphics</i> , PI, Total: \$550,000
2021 2023	<b>NIJ: R&amp;D In Forensic Science</b> , <i>Automatic Acquisition and Identification of Footwear Class Characteristics</i> , PI, Total: \$380,650
2021 2022	<b>USDA-NIFA: Agriculture and Food Research Initiative</b> , <i>Corn Residue Adaptive Grazing Strategies</i> , Collaborator, Total: \$300,000
2020 2025	<b>NIST: Center for Statistics and Applications in Forensic Evidence</b> , <i>Footwear Class Characteristics and Human Factors</i> , PI, Total: \$20,000,000, Sub: \$456,930
2021 2023	<b>USDA-NRCS: Conservation Innovation Grant On-Farm Trials</b> , <i>Improving the Economic and Ecological Sustainability of US Crop Production through On-Farm Precision Experimentation</i> , PI, Total: \$4,000,000, Sub: \$400,000 (Split between 3 UNL co-PIs)
2020 2023	<b>NSF: Smart and Connected Communities</b> , <i>Overcoming the Rural Data Deficit to Improve Quality of Life and Community Services in Smart &amp; Connected Small Communities</i> , PI, Total: \$1,500,000, Sub: \$123,445
2019 2020	<b>NIJ: R&amp;D In Forensic Science</b> , <i>Statistical Infrastructure for the Use of Error Rate Studies in the Interpretation of Forensic Evidence</i> , Collaborator, Total: \$197,699, Sub: \$57,596

## Awards

2025	<b>CAREER Award</b> , <i>National Science Foundation</i>
2012	<b>Student Paper Award</b> , <i>Graphics Section, American Statistical Association</i>

## 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	<b>Animint: Interactive Web-Based Animations using Ggplot2's Grammar of Graphics</b> <a href="#">📄</a> , <i>JSM</i> , Section on Statistical Graphics, Seattle, WA
2014	<b>The curse of three dimensions: Why your brain is lying to you</b> <a href="#">📄</a> , <i>JSM</i> , Section on Statistical Graphics, Boston, MA
	<b>Contributed</b>
2025	<b>Teaching Statistical Computing with R and Python</b> <a href="#">📄</a> , <i>useR!</i> , Durham, NC
2025	<b>Hidden Multiple Comparisons Increase Forensic Error Rates</b> <a href="#">📄</a> , <i>Joint Statistical Meetings</i> , Forensics Interest Group, Nashville, TN
2022	<b>Local Population Footwear Class Characteristics - An End-to-End Pipeline for Automatic Data Acquisition and Analysis</b> <a href="#">📄</a> , <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> <a href="#">📄</a> , <i>SDSU Data Science Symposium</i> , South Dakota State University, Brookings, SD
2021	<b>Welcome to Forensic Statistics</b> <a href="#">📄</a> , <i>Data Mishaps Night</i> , Online
2018	<b>Framed Charts in the 1870 Statistical Atlas</b> <a href="#">📄</a> , <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> <a href="#">📄</a> , <i>JSM</i> , Section on Statistical Graphics, Chicago, IL
2015	<b>Visual Aptitude and Statistical Graphics</b> , <i>InfoVis</i> , IEEE, Chicago, IL
2014	<b>Do You See What I See? Using Shiny for User Testing</b> <a href="#">📄</a> , <i>JSM</i> , Section on Statistical Graphics, Boston, MA
2014	<b>Animint: Interactive, Web-Ready Graphics with R</b> <a href="#">📄</a> , <i>Great Plains R User Group</i> , Sioux Center, IA
2013	<b>Signs of the Sine Illusion – why we need to care</b> , <i>JSM</i> , Section on Statistical Graphics, Montreal, ON, CA

## Seminars

2024

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

2024

**Creating Good Graphics** [\[link\]](#), *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** [\[link\]](#), *University of Illinois Chicago School of Public Health*, Epidemiology and Biostatistics Seminar, Chicago, IL (Online)

2024

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

2024

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

2024

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

2023

**Graphics and Cognition: How Do We Perceive Charts?** [\[link\]](#), *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** [\[link\]](#), *Center for Brain, Biology, and Behavior*, University of Nebraska, Lincoln, NE

2023

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

2022

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

2022

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

2022

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

2022

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

2021

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

2021

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

2021

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

2021

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

2021

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

2020

**Statistical Evaluation of Firearms and Toolmark Evidence** [\[link\]](#), *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

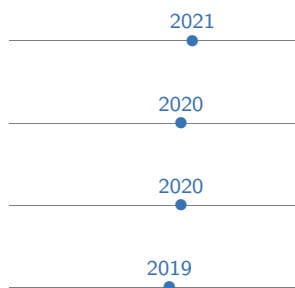
**STAT 892**, *Writing in Statistics/TA Prep*, University of Nebraska – Lincoln, In person synchronous. Evals: 4.29 (mean), 5 (median)

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)



**STAT 850**, *Computing Tools for Statisticians*, University of Nebraska – Lincoln, Hybrid, flipped, synchronous. Evals: 4.79 (mean), 5 (median)

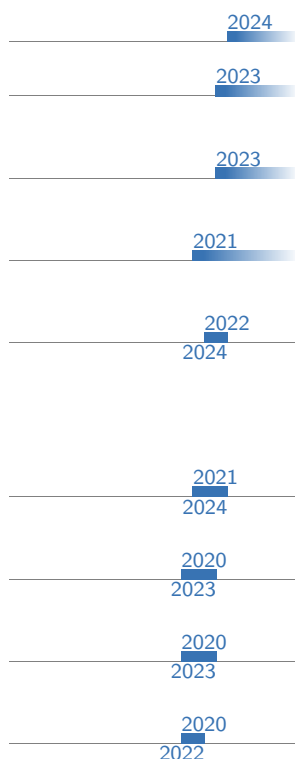
**STAT 218**, *Introduction to Statistics*, University of Nebraska – Lincoln, Initially in person synchronous, then online asynchronous. Evals: 4.20 (mean), 4 (median)

**STAT 850**, *Computing Tools for Statisticians*, University of Nebraska – Lincoln, Hybrid, flipped, synchronous. Evals: 4.76 (mean), 5 (median)

**STAT 585**, *Data Technologies for Statistical Analysis*, Iowa State, Co-taught with Heike Hofmann. Evals: 4.92 (mean), 5 (median)

## Mentoring

### Ph.D.



**Harriet Mason**, Monash University

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

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

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

**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

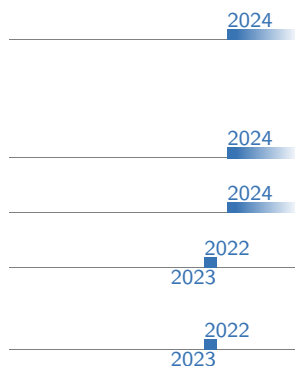
**Rachel Rogers**, *Explainable Machine Learning for Forensics in Courtrooms*, University of Nebraska - Lincoln

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

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

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

### MS



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

**Dinuwanthi Lianage**, University of Nebraska

**Nicole Harms**, University of Nebraska

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

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



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

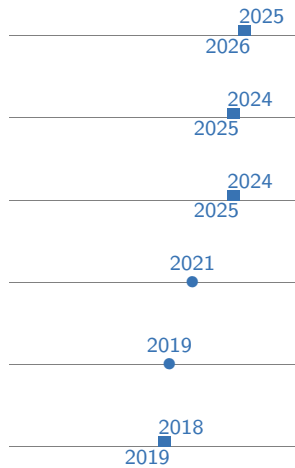
**Ved Piyush**, *Machine Learning and Computer Vision*, University of Nebraska - Lincoln

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

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

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

### Undergraduate



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

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

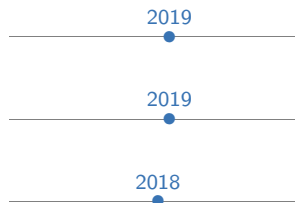
**Olivia Walker**, *An Historical Analysis of Pie and Bar Chart Experiments*, UNL FYRE Program, University of Nebraska

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

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

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

### Summer



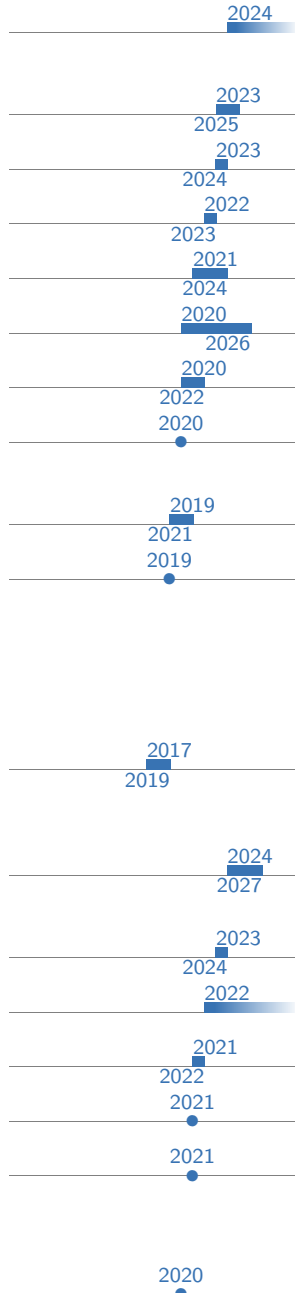
**Molly McDermott and Andrew Maloney**, *Bullet Scan Quality and Machine Learning*, Iowa State University

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

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

## Service

### Discipline



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

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

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

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

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

**Associate Editor**, *R Journal*

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

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

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

**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.

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

### Institution

**Member**, *Faculty Senate*, Executive Committee, 2.5 hour meetings weekly during the school year and biweekly during the summer.

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

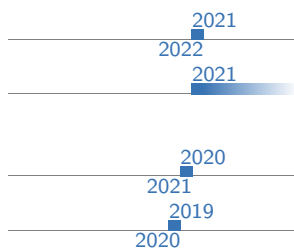
**Representative**, *Statistics Department*, Faculty Senate

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

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

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

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



## Department

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

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

**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, 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

## References

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