

# Susan Vanderplas

## Curriculum Vitae

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### Education

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

### Professional Experience

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|------------|--|
| Since 2024 | <b>Associate Professor</b> , <i>Statistics</i> , University of Nebraska-Lincoln  |
| 2020       | <b>Assistant Professor</b> , <i>Statistics</i> , University of Nebraska-Lincoln  |
| 2018       | <b>Research Assistant Professor</b> , <i>Center for Statistics and Applications in Forensic Evidence</i> , Iowa State University |
| 2015       | <b>Statistical Analyst</b> , 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](https://doi.org/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](https://doi.org/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](https://doi.org/10.1002/wics.70032). URL: <https://onlinelibrary.wiley.com/doi/abs/10.1002/wics.70032>.

- 2024
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](https://doi.org/10.1080/10618600.2025.2476097).
  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](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>.

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.Supp1 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>

20

**ShoeScrapeR**, Acquisition of shoe images and metadata from online retailers

<https://github.com/srvanderplas/shoescraper>

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|         | <p><b>ImageAlignR</b>, <i>Image registration algorithms for forensics</i><br/> <a href="https://github.com/srvanderplas/imagealignr">https://github.com/srvanderplas/imagealignr</a></p>  |
|         | <p><b>animint</b>, <i>Animated, interactive web graphics for R using ggplot2 and d3.js</i><br/> <a href="https://github.com/tdhock/animint">https://github.com/tdhock/animint</a></p>   |
| Grants  |   |
|         | <p><b>NSF: CAREER</b>, <i>What Do You See? Perception, Decisions, and Statistical Graphics</i>, PI, Total: \$550,000</p>  |
|         | <p><b>NIJ: R&amp;D In Forensic Science</b>, <i>Automatic Acquisition and Identification of Footwear Class Characteristics</i>, PI, Total: \$380,650</p>   |
|         | <p><b>USDA-NIFA: Agriculture and Food Research Initiative</b>, <i>Corn Residue Adaptive Grazing Strategies</i>, Collaborator, Total: \$300,000</p>  |
|         | <p><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</p>   |
|         | <p><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)</p> |
|         | <p><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</p>                                       |
|         | <p><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</p>   |
| Awards  |   |
|         | <p><b>CAREER Award</b>, National Science Foundation</p>   |
|         | <p><b>Student Paper Award</b>, Graphics Section, American Statistical Association</p>   |
| Talks   |   |
|         | <p>□ provides a link to slides, where available</p>   |
| Invited |   |
|         | <p><b>Hidden Multiple Comparisons Increase Forensic Error Rates</b> □, ENAR Spring Meeting, New Orleans, Louisiana</p>  |
|         | <p><b>Web Scraping Olympics: Python</b> □, Statistical Computing Section Mini-Symposium, Online</p>   |
|         | <p><b>A Plot is Worth a Thousand Tests: Assessing Residual Diagnostics with the Lineup Protocol</b> □, JSM, Section on Statistical Graphics, Portland, Or</p>   |
|         | <p><b>Escaping Flatland: Graphics, Dimensionality, and Human Perception</b> □, Human Computer Interaction International, Washington DC</p>  |

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| 2024 | <b>Cultivating Insights: Harnessing the Power of Data Visualization in Agriculture</b>  , International Conference for On-Farm Precision Experimentation, Corpus Christie, TX             |
| 2023 | <b>Multimodal User Testing: Producing comprehensive, task-focused guidelines for chart design</b>  , Australian Statistical Conference, Wollongong, NSW, AUS                              |
| 2023 | <b>How Do You Define a Circle? Perception and Computer Vision Diagnostics</b>  , International Association for Statistical Computing, Asian Regional Section Meeting, Macquarie, NSW, AUS |
| 2023 | <b>Multimodal User Testing: Producing comprehensive, task-focused guidelines for chart design</b>  , International Conference on Data Science, Universidad Diego Portales, Chile          |
| 2023 | <b>Testing Statistical Graphics</b>  , JSM, Section on Statistical Graphics, Toronto, ON, CA  |
| 2021 | <b>How do you define a circle? Perception and Computer Vision Diagnostics</b>  , JSM, Section on Statistical Graphics, Seattle, WA  |
| 2021 | <b>Pandemics, Graphics, and Perception of Log Scales</b>  , R Ladies DC, Washington, DC   |
| 2020 | <b>Perception and Visual Communication in a Global Pandemic</b>  , Data Science, Statistics, and Visualization, SAMSI, Online   |
| 2020 | <b>One of these things is not like the others: Visual Statistics and Testing in Statistical Graphics</b>  , Data Science Symposium, South Dakota State University, Brookings, SD         |
| 2020 | <b>Big Data, Big Experiments, and Big Problems</b>  , Plant and Animal Genome, San Diego, CA  |
| 2019 | <b>Statistical Lineups for Bayesians</b>  , JSM, Section on Statistical Graphics, Denver, CO  |
| 2018 | <b>Clusters Beat Trend!? Testing Feature Hierarchy in Statistical Graphics</b>  , SDSS, Reston, VA  |
| 2015 | <b>Animint: Interactive Web-Based Animations using Ggplot2's Grammar of Graphics</b>  , JSM, Section on Statistical Graphics, Seattle, WA   |
| 2014 | <b>The curse of three dimensions: Why your brain is lying to you</b>  , JSM, Section on Statistical Graphics, Boston, MA  |

## Contributed

|      |   |
|------|---|
| 2025 | <b>Teaching Statistical Computing with R and Python</b>  , <i>useR!</i> , Durham, NC   |
| 2025 | <b>Hidden Multiple Comparisons Increase Forensic Error Rates</b>  , <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>  , <i>International Association for Identification Meeting</i> , Omaha, NE |
| 2022 | <b>From Scans to Scores</b> , <i>International Association for Identification Meeting</i> , Omaha, NE   |
| 2022 | <b>How do you define a circle? Perception and Computer Vision Diagnostics</b>  , <i>SDSU Data Science Symposium</i> , South Dakota State University, Brookings, SD                                       |
| 2021 | <b>Welcome to Forensic Statistics</b>  , <i>Data Mishaps Night</i> , Online  |
| 2018 | <b>Framed Charts in the 1870 Statistical Atlas</b>  , <i>JSM</i> , Section on Statistical Graphics, Vancouver, BC, CA  |
| 2017 | <b>A Bayesian Approach to Visual Inference</b> , <i>JSM</i> , Section on Statistical Graphics, Baltimore, MD  |
| 2016 | <b>Clusters Beat Trend!? Testing Feature Hierarchy in Statistical Graphics</b>  , <i>JSM</i> , Section on Statistical Graphics, Chicago, IL  |
| 2015 | <b>Visual Aptitude and Statistical Graphics</b> , <i>InfoVis</i> , IEEE, Chicago, IL  |
| 2014 | <b>Do You See What I See? Using Shiny for User Testing</b>  , <i>JSM</i> , Section on Statistical Graphics, Boston, MA   |
| 2014 | <b>Animint: Interactive, Web-Ready Graphics with R</b>  , <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

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|------|---|
| 2024 | <b>Creating Effective Graphics</b> <a href="#"></a> , <i>Undergraduate Creative Activities and Research Experience</i> , Lincoln, NE  |
| 2024 | <b>Creating Good Graphics</b> <a href="#"></a> , <i>UNL REU seminar</i> , University of Nebraska - Lincoln, Lincoln, NE   |
| 2024 | <b>Graphical Perception in a Pandemic: Log Scales, Exponential Growth, and the Importance of User Testing</b> <a href="#"></a> , <i>University of Illinois Chicago School of Public Health</i> , Epidemiology and Biostatistics Seminar, Chicago, IL (Online) |
| 2024 | <b>Building a CV/Blog Automatically</b> <a href="#"></a> , <i>Graphics Group</i> , University of Nebraska, Online   |
| 2024 | <b>Building a CV with R and Google Sheets</b> <a href="#"></a> , <i>Graphics Group</i> , University of Nebraska, Online   |
| 2024 | <b>Using Git Submodules</b> <a href="#"></a> , <i>Graphics Group</i> , University of Nebraska, Online   |
| 2023 | <b>Graphics and Cognition: How Do We Perceive Charts?</b> <a href="#"></a> , <i>Graphics Group</i> , University of Nebraska-Lincoln, Iowa State University, and other interested affiliates, Online   |
| 2023 | <b>What Makes a Good Graph? Graphical Testing and Principles for Graph Design</b> <a href="#"></a> , <i>Center for Brain, Biology, and Behavior</i> , University of Nebraska, Lincoln, NE   |
| 2023 | <b>Inconclusive Conclusions: Biases and Consequences</b> <a href="#"></a> , <i>Biostatistics</i> , Johns Hopkins University, Baltimore, MD  |
| 2022 | <b>Reproducible Science: Statistics, Forensics, and the Law</b> <a href="#"></a> , <i>Statistics</i> , University of Nebraska - Lincoln, Lincoln, NE  |
| 2022 | <b>How to make good charts</b> <a href="#"></a> , <i>Complex Biosystems</i> , University of Nebraska - Lincoln, Lincoln, NE   |
| 2022 | <b>Pandemics, Graphics, and Perception of Log Scales</b> <a href="#"></a> , <i>Math</i> , University of Nebraska - Omaha, Omaha, NE   |
| 2022 | <b>Automatic Acquisition of Footwear Class Characteristics</b> <a href="#"></a> , <i>Center for Statistical Applications in Forensic Evidence</i> , Online  |
| 2021 | <b>Pandemics, Graphics, and Perception of Log Scales</b> <a href="#"></a> , <i>NUMBATS</i> , Monash University, Melbourne, Vic, AUS   |
| 2021 | <b>Exploring Rural Quality of Life Using Data Science and Public Data</b> <a href="#"></a> , <i>QQPM</i> , University of Nebraska - Lincoln, Lincoln, NE  |
| 2021 | <b>Inconclusive Conclusions: Biases and Consequences</b> <a href="#"></a> , <i>Law and Psychology Brown Bag</i> , University of Nebraska - Lincoln, Lincoln, NE   |
| 2021 | <b>Visual Statistics: Communication and Graphical Testing</b> <a href="#"></a> , <i>Animal Science</i> , University of Nebraska - Lincoln, Lincoln, NE  |
| 2021 | <b>How to Make Good Charts</b> <a href="#"></a> , <i>Biological and Systems Engineering GSA</i> , University of Nebraska - Lincoln, Lincoln, NE   |
| 2020 | <b>Statistical Evaluation of Firearms and Toolmark Evidence</b> <a href="#"></a> , <i>Statistics</i> , University of Nebraska - Lincoln, Lincoln, NE  |

## Teaching

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|------|---|
| 2025 | <b>STAT 151</b> , <i>Introduction to Statistical Computing</i> , University of Nebraska – Lincoln, Flipped synchronous. Evals: 3.90 (mean), 4 (median)                                  |
| 2025 | <b>STAT 349</b> , <i>Technical Skills for Statisticians</i> , University of Nebraska – Lincoln, In person synchronous. Evals: 4.00 (mean), 4 (median)                                   |
| 2025 | <b>STAT 351</b> , <i>Statistical Computing II - Data Management and Visualization</i> , University of Nebraska – Lincoln, In person synchronous   |
| 2025 | <b>STAT 850</b> , <i>Computing Tools for Statisticians</i> , University of Nebraska – Lincoln, Flipped synchronous  |
| 2024 | <b>STAT 151</b> , <i>Introduction to Statistical Computing</i> , University of Nebraska – Lincoln, Flipped synchronous. Evals: 4.50 (mean), 5 (median)                                  |
| 2024 | <b>STAT 251</b> , <i>Data Wrangling</i> , University of Nebraska – Lincoln, Flipped synchronous. Evals: 4.69 (mean), 5 (median)   |
| 2024 | <b>STAT 892</b> , <i>Writing in Statistics/TA Prep</i> , University of Nebraska – Lincoln, In person synchronous  |
| 2024 | <b>Stat 992</b> , <i>Special Topics in Data Visualization</i> , University of Nebraska – Lincoln, In person synchronous. Evals: 4.82 (mean), 5 (median)                                 |
| 2023 | <b>STAT 151</b> , <i>Introduction to Statistical Computing</i> , University of Nebraska – Lincoln, Flipped synchronous. Evals: 4.55 (mean), 5 (median)                                  |
| 2023 | <b>STAT 251</b> , <i>Data Wrangling</i> , University of Nebraska – Lincoln, Flipped synchronous. Evals: 4.30 (mean), 5 (median)   |
| 2023 | <b>STAT 892</b> , <i>Data Technologies for Statistical Analysis</i> , University of Nebraska – Lincoln, Co-taught with ISU Stat 585, Hybrid synchronous. Evals: 4.45 (mean), 4 (median) |
| 2023 | <b>STAT 850</b> , <i>Computing Tools for Statisticians</i> , University of Nebraska – Lincoln, Flipped synchronous. Evals: 4.31 (mean), 5 (median)                                      |
| 2023 | <b>STAT 892</b> , <i>Writing in Statistics/TA Prep</i> , University of Nebraska – Lincoln, In person synchronous. Evals: 4.13 (mean), 4 (median)  |
| 2022 | <b>STAT 151</b> , <i>Introduction to Statistical Computing</i> , University of Nebraska – Lincoln, Flipped synchronous. Evals: 4.95 (mean), 5 (median)                                  |
| 2022 | <b>STAT 218</b> , <i>Introduction to Statistics</i> , University of Nebraska – Lincoln, Online asynchronous. Evals: 3.72 (mean), 4 (median)   |
| 2022 | <b>STAT 850</b> , <i>Computing Tools for Statisticians</i> , University of Nebraska – Lincoln, Flipped synchronous. Evals: 4.33 (mean), 5 (median)                                      |
| 2022 | <b>STAT 892</b> , <i>Writing in Statistics/TA Prep</i> , University of Nebraska – Lincoln, In person synchronous. Evals: 4.29 (mean), 5 (median)  |
| 2022 | <b>STAT 982</b> , <i>Advanced Inference</i> , University of Nebraska – Lincoln, Co-taught with Bertrand Clarke. Evals: 4.34 (mean), 5 (median)  |
| 2021 | <b>STAT 218</b> , <i>Introduction to Statistics</i> , University of Nebraska – Lincoln, Online asynchronous.. Evals: 4.01 (mean), 4 (median)  |

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| 2021 | <b>STAT 850</b> , <i>Computing Tools for Statisticians</i> , University of Nebraska – Lincoln, Hybrid, flipped, synchronous. Evals: 4.79 (mean), 5 (median)                       |
| 2020 | <b>STAT 218</b> , <i>Introduction to Statistics</i> , University of Nebraska – Lincoln, Initially in person synchronous, then online asynchronous. Evals: 4.20 (mean), 4 (median) |
| 2020 | <b>STAT 850</b> , <i>Computing Tools for Statisticians</i> , University of Nebraska – Lincoln, Hybrid, flipped, synchronous. Evals: 4.76 (mean), 5 (median)                       |
| 2019 | <b>STAT 585</b> , <i>Data Technologies for Statistical Analysis</i> , Iowa State, Co-taught with Heike Hofmann. Evals: 4.92 (mean), 5 (median)                                    |

## Mentoring

### Ph.D.

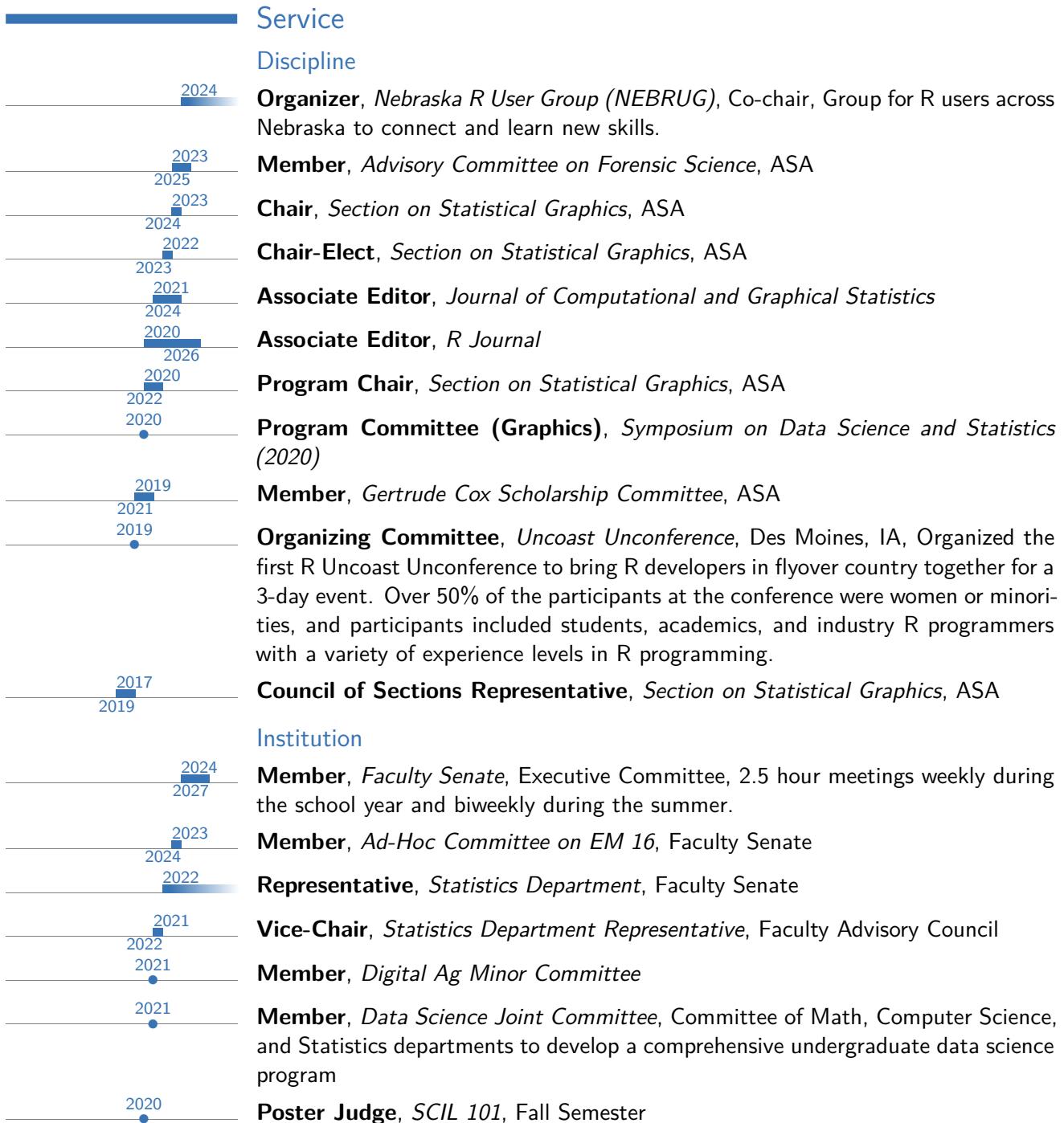
|              |   |
|--------------|---|
| 2024         | <b>Harriet Mason</b> , Monash University  |
| 2023         | <b>Tyler Wiederich</b> , <i>Perception of Three Dimensional Graphics</i> , University of Nebraska - Lincoln   |
| 2023         | <b>Muxin Ha</b> , <i>Automatic Recognition of Shoe Class Characteristics</i> , University of Nebraska - Lincoln   |
| 2021         | <b>Denise Bradford</b> , <i>Dashboards for Exploratory Multivariate Data Analysis</i> , University of Nebraska - Lincoln  |
| 2022<br>2024 | <b>Weihao (Patrick) Li</b> , <i>Advances in Artificial Intelligence for Data Visualization: Developing Computer Vision Models to Automate Reading of Data Plots, with Application to Predictive Model Diagnostics</i> , co-advised with Dianne Cook and Emi Tanaka, Monash University |
| 2021<br>2024 | <b>Rachel Rogers</b> , <i>Explainable Machine Learning for Forensics in Courtooms</i> , University of Nebraska - Lincoln  |
| 2020<br>2023 | <b>Alison Kleffner</b> , <i>Spatial Statistics and Visualization in Ecology and Agriculture</i> , co-advised with Yawen Guan, University of Nebraska - Lincoln  |
| 2020<br>2023 | <b>Joseph Zemmels</b> , <i>Analysis and Matching of Cartridge Cases</i> , co-advised with Heike Hofmann, Iowa State University  |
| 2020<br>2022 | <b>Emily Robinson</b> , <i>Perception of Log Scales</i> , co-advised with Reka Howard, University of Nebraska - Lincoln   |

### MS

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| 2024         | <b>Maksuda Aktar Toma</b> , <i>An Historical Analysis of Pie and Bar Chart Experiments</i> , University of Nebraska ASCII//TRANSLITASCII//TRANSLITASCII//TRANSLIT Lincoln |
| 2024         | <b>Dinuwanthi Lianage</b> , University of Nebraska  |
| 2024         | <b>Nicole Harms</b> , University of Nebraska  |
| 2022<br>2023 | <b>Tyler Wiederich</b> , <i>Perception of Three Dimensional Graphics</i> , University of Nebraska - Lincoln   |
| 2022<br>2023 | <b>Muxin Ha</b> , <i>Automatic Recognition of Shoe Class Characteristics</i> , University of Nebraska - Lincoln   |

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|---|---|
| <p>2021<br/>2022</p> <p>2020</p> <p>2019<br/>2020</p> <p>2019<br/>2020</p> <p>2018<br/>2019</p> <p>2025<br/>2026</p> <p>2024<br/>2025</p> <p>2024<br/>2025</p> <p>2021</p> <p>2019</p> <p>2018<br/>2019</p> <p>2019</p> <p>2018</p> | <p><b>Jayden Stack</b>, <i>Automatic Recognition of Shoe Class Characteristics</i>, University of Nebraska - Lincoln</p> <p><b>Ved Piyush</b>, <i>Machine Learning and Computer Vision</i>, University of Nebraska - Lincoln</p> <p><b>Joseph Zemmels</b>, <i>Analysis and Matching of Cartridge Cases</i>, co-advised with Heike Hofmann, Iowa State University</p> <p><b>Eryn Blagg</b>, <i>Analysis of Wear Development in Three-Dimensional Shoe Scans</i>, co-advised with Heike Hofmann, Iowa State University</p> <p><b>Miranda Tilton</b>, <i>Footwear Class Characteristics and Computer Vision</i>, Iowa State University</p> <p><b>Undergraduate</b></p> <p><b>Mason Chandler</b>, <i>The Quantitative Display of Insanity</i>, UNL Undergraduate Research Program, University of Nebraska</p> <p><b>Mason Chandler</b>, <i>An Historical Analysis of Pie and Bar Chart Experiments</i>, UNL FYRE Program, University of Nebraska</p> <p><b>Olivia Walker</b>, <i>An Historical Analysis of Pie and Bar Chart Experiments</i>, UNL FYRE Program, University of Nebraska</p> <p><b>Xinyu Liu</b>, <i>Machine Learning for Shoe Sole Images</i>, UNL FYRE Program, University of Nebraska - Lincoln</p> <p><b>Jason Seo</b>, <i>R package for visualization of neural networks using the python library keras-vis</i>, Iowa State University</p> <p><b>Talen Fisher</b>, <i>Database engineering and tools for working with x3p files</i>, Iowa State University</p> <p><b>Summer</b></p> <p><b>Molly McDermott and Andrew Maloney</b>, <i>Bullet Scan Quality and Machine Learning</i>, Iowa State University</p> <p><b>Syema Ailia, Emmanuelle Hernandez Morales, Tiger Ji</b>, <i>Rapid quality control tools for confocal microscopy scans</i>, Iowa State University</p> <p><b>Ben Wonderlin, Jenny Kim</b>, <i>Footwear Class Characteristics and Computer Vision</i>, Young Engineers and Scientists Program, Iowa State University</p> |
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## Timeline



|      |  |
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|      | <b>Department</b>  |
| 2021 | <b>Member</b> , <i>MS Comprehensive Exam Committee</i>   |
| 2022 | <b>Coordinator</b> , <i>R workshops</i> , University of Nebraska Lincoln, Develop and coordinate a week of R workshops taught in January and May each year   |
| 2021 | <b>Organizer</b> , <i>Seminar</i> , Statistics Department  |
| 2020 | <b>Member</b> , <i>Undergraduate Program Committee</i> , 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.  |
| 2020 | 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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Science Literacy and Data Analytics

Extension Specialist

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Professor

Department of Statistics

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