Susan Vanderplas

Curriculum Vitae

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	Education
2015	PhD, Statistics, Iowa State University
0011	Dissertation: The Perception of Statistical Graphics
2011	MS, Statistics, Iowa State University
2009	BS, Psychology & Applied Mathematical Sciences, Texas A&M University
	Professional Experience
2020	Assistant Professor, Statistics Department, University of Nebraska, Lincoln
2018	Research Assistant Professor , Center for Statistics and Applications in Forensic Evidence, Iowa State University
2015 2019	Statistical Analyst/Consultant, Nebraska Public Power District
2015 2015	Postdoc, Iowa State University Office of the Vice President for Research
	Publications
	Student advisees indicated with *. Contribution percentages estimated from git contributions using git fame where possible. Not all projects have github repositories for which this is meaningful.
	Peer Reviewed Publications
19	VanderPlas , Susan , Ge, Yawei*, Unwin, Antony, and Hofmann, Heike (Mar. 2023). "Penguins Go Parallel: a grammar of graphics framework for generalized parallel coordinate plots". In: <i>Journal of Computational and Graphical Statistics</i> . DOI: 10.1080/10618600.2023.2195462.
18	Contribution: Writing (50%). Zemmels, Joseph*, Vanderplas, Susan, and Hofmann, Heike (Feb. 9, 2023). "A Study in Reproducibility: The Congruent Matching Cells Algorithm and cmcR package". In: <i>R Journal</i> 14 (4), pp. 79–102. DOI: 10.32614/RJ-2023-014.
17	Contribution: Programming and analysis (10%), Writing (20%), Advising (40%). Robinson, Emily*, Howard, Reka, and VanderPlas , Susan (Jan. 2023). "You Draw It: Implementation of visually fitted trends with r2d3". In: <i>Journal of Data Science</i> . ISSN: 1680-743X. DOI: 10.6339/22-JDS1083.
16	Contribution: Writing (10%), Advising (80%). Bradford, Denise* and VanderPlas, Susan (Dec. 2022). "Exploring Rural Shrink Smart Through Guided Discovery Dashboards". In: <i>Journal of Data Science</i> , pp. 1–12. ISSN: 1680-743X. DOI: 10.6339/22-JDS1080.
15	Contribution: Programming and analysis (10%), Writing (10%), Advising (100%). Wilhelm, Adalbert and VanderPlas, Susan (Nov. 2022). "Visual Narratives of the Covid-19

pandemic". In: Journal of Data Science, Statistics, and Visualisation 2.7, pp. 84-113. DOI: 10.





growth. 3 manuscripts currently in preparation. **Bullet Signature Resampling** Method for resampling bullet signatures used to calculate match and non-match score distributions.

Grants

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

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

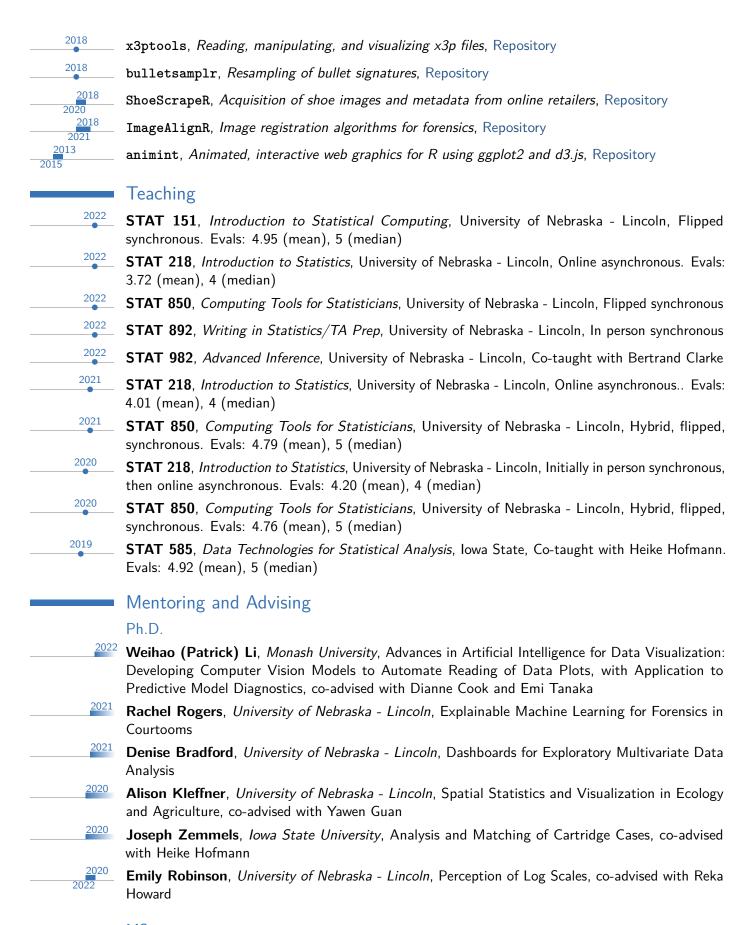
NIST: Center for Statistics and Applications in Forensic Evidence, Footwear Class Characteristics and Human Factors, PI, Total: \$20,000,000, Sub: \$456,930

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)



2018	Framed Charts in the 1870 Statistical Atlas , <i>JSM</i> , Section on Statistical Graphics, Vancouver, BC, CA
2017	A Bayesian Approach to Visual Inference, 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 , <i>JSM</i> , 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 , <i>JSM</i> , Section on Statistical Graphics, Montreal, ON, CA
	Seminars
2022	Reproducible Science: Statistics, Forensics, and the Law , <i>Statistics</i> , 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 , <i>Math</i> , 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 , <i>NUMBATS</i> , Monash University, Melbourne, Vic, AUS
2021	Exploring Rural Quality of Life Using Data Science and Public Data , <i>QQPM</i> , University of Nebraska - Lincoln, Lincoln, NE
2021	Inconclusive Conclusions: Biases and Consequences , <i>Law and Psychology Brown Bag</i> , University of Nebraska - Lincoln, Lincoln, NE
2021	Visual Statistics: Communication and Graphical Testing , <i>Animal Science</i> , University of Nebraska - Lincoln, Lincoln, NE
2021	How to Make Good Charts , <i>Biological and Systems Engineering GSA</i> , University of Nebraska - Lincoln, Lincoln, NE
2020	Statistical Evaluation of Firearms and Toolmark Evidence , <i>Statistics</i> , University of Nebraska - Lincoln, Lincoln, NE
	Software
2021	Dates show initial involvement; only packages which are no longer maintained have end dates.
2021	ggpcp, Generalized parallel coordinate plots, Repository
2020	vinference, Analysis of visual inference experiments, Repository
2019	groovefinder, Identification of grooves in scans of bullet land engraved areas, Repository
2019	cmcR, Automated matching of 3d cartridge case scans using the congruent matching cells algorithm, Repository
2010	

__ bulletxtrctr, Automated matching of 3d bullet scans, Repository



2023	Charles Bonk, University of Nebraska - Lincoln, Reproducibility in Firearms and Toolmark Algorithms
2022	Tyler Wiederich, University of Nebraska - Lincoln, Perception of Three Dimensional Graphics
2022	Muxin Ha, University of Nebraska - Lincoln, Automatic Recognition of Shoe Class Characteristics
2021 2022	Jayden Stack, University of Nebraska - Lincoln, Automatic Recognition of Shoe Class Characteristics
2020	Ved Piyush, University of Nebraska - Lincoln, Machine Learning and Computer Vision
2019	Joseph Zemmels , <i>Iowa State University</i> , Analysis and Matching of Cartridge Cases, co-advised with Heike Hofmann
2019	Eryn Blagg , <i>Iowa State University</i> , Analysis of Wear Development in Three-Dimensional Shoe Scans, co-advised with Heike Hofmann
2018	Miranda Tilton, Iowa State University, Footwear Class Characteristics and Computer Vision
	Undergraduate
2021	Xinyu Liu , <i>University of Nebraska - Lincoln</i> , Machine Learning for Shoe Sole Images, UNL FYRE Program
2019	Jason Seo , <i>Iowa State University</i> , R package for visualization of neural networks using the python library keras-vis
2018	Talen Fisher , <i>Iowa State University</i> , Database engineering and tools for working with x3p files
	Summer
2019	Molly McDermott and Andrew Maloney , <i>Iowa State University</i> , Bullet Scan Quality and Machine Learning
2019	Syema Ailia, Emmanuelle Hernandez Morales, Tiger Ji , <i>Iowa State University</i> , Rapid quality control tools for confocal microscopy scans
2018	Ben Wonderlin, Jenny Kim , <i>Iowa State University</i> , Footwear Class Characteristics and Computer Vision, Young Engineers and Scientists Program
	Outreach
	Legal Briefs and Testimony
2022	Amicus Curiae Brief, Supreme Court of New Jersey, A-56-18 State v. Michael Olenowski (082253)
2022	Amicus Curiae Brief, Supreme Court of Maryland, In Support of Appellant Kobina Ebo Abruquah
2022	Written Testimony , <i>Cook County Circuit Court</i> , Reply to Response by FBI Laboratory filed in Illinois v. Winfield and Affidavit by Biederman et al. (2022) filed in US v. Kaevon Sutton (2018 CF1 009709)
2021	Written Testimony , <i>Cook County Circuit Court</i> , Assessment of the Reliability of Studies of Firearms Examination in Forensics
	Forensic Practitioners
2021	Blog Post , <i>CSAFE</i> , Q&A - Treatment of Inconclusive Results in Error Rates of Firearm Studies (Link)
2021	Webinar, CSAFE, Treatment of Inconclusive Results in Error Rates of Firearm Studies
2020	CSAFE Firearms Workshop, Invited Talk: Open Source Software in Forensics

	Service
	Service to the Discipline
2023 2025	Advisory Committee on Forensic Science, ASA
2023	Graphics Section Chair, ASA
2022 2022 2023	Graphics Section Chair-Elect, ASA
2021	Associate Editor, Journal of Computational and Graphical Statistics
2020	Associate Editor, R Journal
2020	Graphics Section Program Chair (2021) , <i>ASA</i> , Official duties include planning JSM sessions in 2020 and running the Data Expo in 2022
2020	Program Committee (Graphics) , Symposium on Data Science and Statistics 2020, Visualization Track co-chair
2019	Gertrude Cox Scholarship Committee Member , <i>ASA</i> Assisted with selection of the Gertrude Cox Scholarship recipients and honorable mentions
2019	Uncoast Unconference Organizing Committee , 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. Graphics Section Representative to the Council of Sections , <i>ASA</i>
Reviewing	I have reviewed papers for JCGS, the R Journal, JASA, The American Statistician, Forensic Science International, Law Probability and Risk, Forensic Sciences Research, and Symmetry.
	Department and Institutional Service
2021	R Workshop Coordinator
	Develop and coordinate a week of R workshops taught in January, and May each year
2021	Faculty Senate, Statistics Department Representative
2021	Faculty Advisory Council, Vice-Chair
2021	MS Comp Exam Committee Committee to evaluate the current MS Stat Day presentation component and consider other options for the MS program
2021	Digital Ag Minor Committee Committee to develop a digital ag minor
2021	Data Science Joint Committee Committee of Math, Computer Science, and Statistics departments to develop a comprehensive undergraduate data science program
2020	Seminar Organizer
2020	Arrange speakers for the department seminar
•	SCIL 101 Poster Judge, Fall Semester
2019	Undergraduate Program Committee Design an undergraduate statistics major and submit the proposal to the university

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