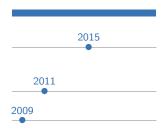
Susan Vanderplas

Curriculum Vitae



Education

PhD, Statistics, Iowa State University.

Dissertation: The Perception of Statistical Graphics

MS, Statistics, Iowa State University.

BS, Psychology & Applied Mathematical Sciences, Texas A&M University.



2018

Professional Experience

Research Assistant Professor, Center for Statistics and Applications in Forensic Evidence, Iowa State University.

Statistical Consultant, Nebraska Public Power District.

Provided individual mentoring and project leadership to continue the Business Intelligence Embedded Agent program and provide support for R-related projects.

Statistical Analyst, Nebraska Public Power District.



2018

Postdoc, Iowa State University Office of the Vice President for Research.

2014

Consultant.

Develop web applications, interactive data displays, and statistical analyses for clients including the Iowa Soybean Association, ISU Agronomy Labs, and the USDA.



Scholarship

Contribution percentages estimated from git contributions using git fame where possible. Not all projects have github repositories for which this is meaningful.

Journal Publications

11.

Carriquiry, A., Hofmann, H., Tai, X. H. & **VanderPlas**, **S.** Machine learning in forensic applications. *Significance* **16**, 29–35. https://doi.org/10.1111/j.1740-9713.2019.01252.x.

10. _____

VanderPlas, **S.**, Goluch, R. & Hofmann, H. Framed! Reproducing and Revisiting 150 year old charts. *Journal of Computational and Graphical Statistics*. https://doi.org/10.1080/10618600.2018.1562937.

Contribution: Programming and analysis (60%), writing (50%).



2018

In Progress Truthiness and Statistical Charts Evaluate whether the truthiness effect (increased belief in a statement based on the presence of an accompanying picture) holds for statistical charts and maps.

> Bullet Signature Resampling Method for resampling bullet signatures used to calculate match and non-match score distributions.

> Bullet Test Set Validation Validate an algorithm for bullet matching on several test sets used to test forensic examiner proficiency.

> Footwear Class Characteristic Recognition using Neural Networks Use convolutional neural networks to automate identification of class characteristics in images of footwear outsoles.

Grants

2018 2018 NIJ R&D in Forensic Science. Statistical Infrastructure for the Use of Error Rate Studies in the Interpretation of Forensic Evidence, Collaborator, Funded for FY 2019. \$197.699 total. \$57.596 ISU sub-award.

NIJ R&D in Forensic Science, Passive Acquisition of Footwear Class Characteristics in Local Populations, PI, Not funded, \$383,104.

NIJ R&D in Forensic Science, Evaluating Photogrammetry for 3D Footwear Impression Recovery, PI, Not funded, \$281,755.

Invited Talks



2014

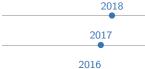
Statistical Lineups for Bayesians, JSM, Section on Statistical Graphics, Denver, CO.

Clusters Beat Trend!? Testing Feature Hierarchy in Statistical Graphics, SDSS, Reston, VA.

Animint: Interactive Web-Based Animations Using Ggplot2's Grammar of **Graphics**, *JSM*, Seattle, WA.

The curse of three dimensions: Why your brain is lying to you, JSM, Section on Statistical Graphics Student Paper Session, Boston, MA.

Contributed Talks



2015

2015

2014

2013

Framed! Reproducing 150 year old charts, JSM, Vancouver, BC.

A Bayesian Approach to Visual Inference, *JSM*, Baltimore, MD.

Clusters Beat Trend!? Testing Feature Hierarchy in Statistical Graphics, JSM, Chicago, IL.

Visual Aptitude and Statistical Graphics, InfoVis, Chicago, IL.

Animint: Interactive, Web-Ready Graphics with R, Great Plains R User Group, Sioux Center, IA.

Do You See What I See? Using Shiny for User Testing, JSM, Boston, MA.

Signs of the Sine Illusion – why we need to care, JSM, Montreal, ON.

	Software
2018	bulletsamplr, Resampling of bullet signatures.
2018	ImageAlignR, Image registration algorithms for forensics.
2018	bulletxtrctr, automated matching of 3d bullet scans.
2018	x3ptools, Reading, manipulating, and visualizing x3p files.
2013 2015	animint, animated, interactive web graphics for R using d3.js.
	Teaching
2019	Stat 585 - Data Technologies for Statistical Analysis, <i>Iowa State University</i> . Frequent guest lecturer, assisted with curriculum development
2017 2018	Business Intelligence Embedded Agent Program, Nebraska Public Power District.
	Design and implement a program to mentor employees, providing instruction in data science and opportunities to apply new skills within the company. Lead one-on-one and group mentoring sessions to create a sense of community and reinforce skills learned through online courses. Class size: 16
2017	R Workshop, Nebraska Public Power District.
	3-day internal course on using R for data analysis.
2013	R Workshops, <i>Iowa State</i> . Introduction to R, ggplot2, data management and cleaning, package development, literate
2013	programming, and Shiny. Statistical Methods for Research , <i>Iowa State</i> , TA. Stat 401
2013	Introduction to Business Statistics II, Iowa State, TA. Stat 326
2012	Introduction to Business Statistics II, <i>Iowa State</i> , TA. Stat 326
2011	Statistical Methods for Research, <i>Iowa State</i> , TA. Stat 401
2011	Empirical Methods for Computer Science , <i>Iowa State</i> , TA. Stat 430
	Mentoring and Advising
2018	Miranda Tilton, Statistics, Ph.D. Footwear Class Characteristics and Computer Vision. Completed MS (Spring 2019).
2019	

Jason Seo, *Computer Science and Statistics*, Undergraduate Research. R package for visualization of neural networks using the python library keras-vis.

Database design for storing bullet scans and intermediate analysis products.

Jenny Ha, Computer Science, Undergraduate Research.

2019

2018	 Talen Fisher, Computer Engineering, Undergraduate Research. Tools for working with x3p files, database design for storing bullet scans and intermediate analysis products. Ben Wonderlin and Jenny Kim, Young Engineers and Scientists, Summer 2018. Footwear Class Characteristics and Computer Vision
	Service
2019	Gertrude Cox Scholarship Committee Member, ASA.
2017 2019	Graphics Section Representative to the Council of Sections, ASA.