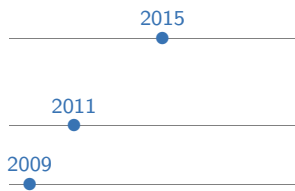


Susan Vanderplas

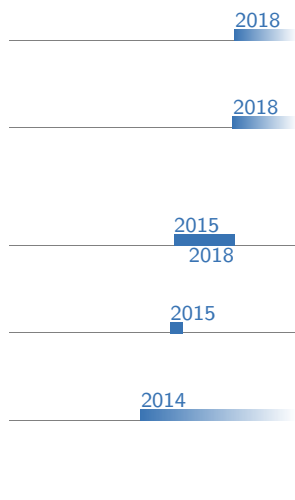
Curriculum Vitae

195C Durham Center
Iowa State University
Ames, IA 50011
✉ svander@iastate.edu
🌐 [svanderplas](https://svanderplas.github.io)

Education

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- 2015 • **PhD, Statistics**, Iowa State University.
Dissertation: The Perception of Statistical Graphics
- 2011 • **MS, Statistics**, Iowa State University.
- 2009 • **BS, Psychology & Applied Mathematical Sciences**, Texas A&M University.

Professional Experience

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- 2018 • **Research Assistant Professor**, *Center for Statistics and Applications in Forensic Evidence*, Iowa State University.
- 2018 • **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.
- 2015–2018 • **Statistical Analyst**, *Nebraska Public Power District*.
- 2015 • **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.

- In Progress • **Visual Inference for Bayesians** Examine two-target statistical lineups and the connection to Bayes Factors.
- **Longitudinal Shoe Database** Design a database for sharing longitudinal shoe wear data, including powder prints, 2D scans, 3D scans, pictures, and crime-scene style casts and prints.
- **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

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.

2018

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

2018

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

Invited Talks

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*, Seattle, WA.

2014

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

Contributed Talks

2018

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

2017

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

2016

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

2015

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

2015

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

2014

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

2013

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

Software

2018

bulletxtctr, *automated matching of 3d bullet scans*.

2019

x3ptools, *Reading, manipulating, and visualizing x3p files*.

2018

2019

bulletsamplr, *Resampling of bullet signatures*.

2018

2018

ImageAlignR, *Image registration algorithms for forensics*.

2013

2015

animint, *animated, interactive web graphics for R using d3.js*.

Teaching

2019

Stat 585 - Data Technologies for Statistical Analysis, *Iowa State University*.
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
2014

R Workshops, *Iowa State*.

Introduction to R, ggplot2, data management and cleaning, package development, literate programming, and Shiny.

2013

Statistical Methods for Research, *Iowa State*, TA.

Stat 401

2013

Introduction to Business Statistics II, *Iowa State*, TA.

Stat 326

2012

Introduction to Business Statistics II, *Iowa State*, TA.

Stat 326

2011

Statistical Methods for Research, *Iowa State*, TA.

Stat 401

2011

Empirical Methods for Computer Science, *Iowa State*, TA.

Stat 430

Mentoring and Advising

2018

Miranda Tilton, *Statistics*, MS Creative Component.

Footwear Class Characteristics and Computer Vision. Expected graduation: Spring 2019

2019

Jason Seo, *Computer Science and Statistics*, Undergraduate Research.

R package for visualization of neural networks using the python library keras-vis.

2019

Jenny Ha, *Computer Science*, Undergraduate Research.

Database design for storing bullet scans and intermediate analysis products.

2018

Talen Fisher, *Computer Engineering*, Undergraduate Research.

Tools for working with x3p files, database design for storing bullet scans and intermediate analysis products.

2018

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.