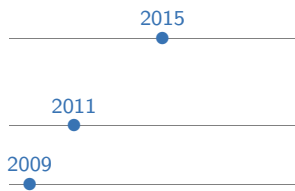


# Susan Vanderplas

## Curriculum Vitae

801 Onyx Cir  
Ames, IA 50010  
☎ 515-509-6613  
✉ [srvander@iastate.edu](mailto:srvander@iastate.edu)  
🌐 [srvanderplas](http://srvanderplas)

### Education

- 
- 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

- 
- 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.