Susan Vanderplas

Data Scientist

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About me I am a data scientist, that is, I transform data into informed decisions by building and interpreting mathematical models. I work with subject matter experts to understand and quantify prior knowledge, then incorporate data to create robust, accurate predictive models. I offer well-rounded statistical skills, programming expertise, and experience communicating statistical information to those outside the field.

Education

Iowa State University

2015 - Ph.D. in Statistics; GPA 3.71
2011 - M.S. Statistics; GPA 3.69

Texas A&M University

2009 - B.S. Psychology and Applied Math; GPA 3.88

Skills

Statistical Techniques

- Estimation with error bands
- Prediction
- Risk assessment
- Reliability analysis
- Time-series models
- Bayesian methods
- Nonparametric statistics
- Data mining
- Experimental design

Computer Skills

- R (statistical programming)
- SAS statistical software
- Data dashboard design
- C, C++
- JavaScript
- SQL/MySQL database
- Web server administration
- MS Office

Experience

Engineering Statistician — Aug. 2015-present

Consulted on engineering and business decisions for Nebraska Public Power District and Cooper Nuclear Station.

Statistical Visualization Research — 2012-2015

Modeled effectiveness of graphical designs for accurate communication of statistical results.

USDA Soybean Genome Project — 2013 - 2015

Identified important features of soybean genetic data, including genes which contribute to disease resistance and increased yield. Created dynamic reports, interactive data dashboards, and other tools to communicate results effectively.

Google Summer of Code — Summers 2013-15

Worked to develop the `animint` package for R, translating R graphics into d3 interactive JavaScript graphics. Participated in the project in 2013, and returned to serve as a mentor for the project in 2014 and 2015.

R Course Instructor — 2013 - 2015

Designed and conducted workshops to teach statistical computing to members of the university and local business community.

Industrial Statistics — 2012 - 2015

Served as an informal consultant to a public utility. Accurately predicted the number of plant outages that occurred during the first 24-month plant cycle using 18-month cycle data.

Iowa Department of Transportation — 2012

Examined the effect of road layout and construction on driver safety (collisions, fatalities).

Materials Science Collaboration — 2010-2011

Increased accuracy and efficiency of peak detection (vs. manual identification) using robust quantile analysis.