Susan VanderPlas

SKILLS AND STRENGTHS

Statistical modeling to make predictions and decisions based on available information

Risk assessment, using data to understand probable outcomes, assess market changes, and identify opportunities

Optimization Identifying targets for process improvement and sources of variability

Communicating and summarizing information with written reports and well-designed graphics

EDUCATION

2011-2015*	**Ph.D. in Statistics** PERCEPTION & STATISTICAL GRAPHICS *Iowa State University*
2009-2011	**M.S. in Statistics** *Iowa State University*
2005-2009	**B.S. in Psychology and Applied Mathematical Sciences** *Texas A&M University*

TECHNICAL SKILLS

Statistical Techniques Linear, generalized, mixed, and hierarchical models. Data mining, Bayesian, time series, and nonparametric analysis.

Statistical Software Expert R user, SAS (linear and mixed models), JMP.

Programming and Database Software C and C++, JavaScript, git, SQL and MySQL.

Web Development Interactive applet development with Shiny, d3 interactive graphics, use of knitr and pandoc to automate report generation, Apache web server administration.

Computer Skills Proficient in Microsoft Office. Familiar with Windows and Linux.

AWARDS

ASA STUDENT PAPER AWARD (GRAPHICS) • 2013

NSF IGERT FELLOWSHIP • 2009-2011

TEXAS A&M • Foundation, University, Liberal Arts, Psychology, and Mathematics Honors

UGRAD. RESEARCH FELLOW • Texas A&M, 2009

UNIVERSITY SCHOLAR • Texas A&M, 2006-2009

ASTRONAUT SCHOLAR • 2008-2009

PRESIDENT'S ENDOWED SCHOLARSHIP • 2005-2009

DIRECTOR'S EXCELLENCE AWARD • 2005-2009

NATIONAL MERIT AWARD • Texas A&M

NATIONAL MERIT SCHOLAR • 2005

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EXPERIENCE

Statistical Visualization
Ph.D. Research, ISU   SUMMER 2012-PRESENT
Modeled effectiveness of graphical designs for accurate communication of statistical results.

Soybean Genome Analysis
USDA and ISU Statistics   FALL 2013-PRESENT
Identified important features of soybean genetic data, including genes which contribute to disease resistance and increased yield.

Statistical Consulting
Nebraska Public Power   FALL 2012-PRESENT
Provided informal statistical advice to engineers on bootstrap techniques, tolerance intervals, probability analysis, and statistical modeling assumptions. Estimated plant reliability using nonparametric bootstrap, provided visualizations of multidimensional data, and assisted with model assessment.

R Course Instructor   SPRING 2013-PRESENT
Designed and conducted workshops to teach R skills to members of the university and local business community.

Statistics Education Applets   2013-2014
Created web-based applets to teach statistical techniques interactively. Link: Applets

Modeling Student Learning   FALL 2013
Provided modeling advice and statistical expertise to aerospace engineering professsors conducting research on active learning.

Modeling Collisions and Road Design
Iowa DOT and ISU Statistics   JAN-AUG 2012
Modeled effectiveness of road interventions on traffic accidents and fatalities.

Nonparametric Peak Identification
MS Research, ISU   2010-2011
Worked with the materials science and engineering department at ISU to develop and implement nonparametric methods for peak detection in mass spectroscopy data.