Extra ! Extra ! Read all about it!

The Steering Committee of the Statistical Science Master at Leiden University, announces the following Statistical Science Seminar on Friday March 22, 2013 at the Mathematical Institute Leiden in Room 412.

The seminar is open to everyone interested and consists of two talks:

Two ideas we need to teach the media (and everyone else)

Howard Wainer (National Board of Medical Examiners)

from 15.00 hours (room 412)

Skytree Adviser: A Second Opinion Statistical Analyzer

by Leland Wilkinson (Skytree, University of Illinois)

from 16.00 hours (room 412)

NB Registration via statscience@math.leidenuniv.nl is very much appreciated

Skytree Adviser: A Second Opinion Statistical Analyzer

Abstract

Statistical expert systems were the focus of intense research more than a decade ago, but commercial and open-source statistics packages have generally failed to exploit the results of that research. Adviser is an attempt to combine an expert statistical system with a new graphical user interface (GUI) in order to provide novice data analysts and Ph.D. statisticians with a second opinion on analyses they have likely performed with a conventional statistical or machine learning package. The expert system includes extensive testing for anomalies, diagnostics of model residuals, and remedial recommendations. The GUI takes advantage of contemporary developments in interface design. This GUI -- tested on both novice and expert users -- has no keyboard input, user manual, or dialogs. All interaction is designed for a mouse or touch-screen interface. Adviser output is a browser-based document with exportable graphics, technical references, and links to Web statistical resources.

About Leland Wilkinson

Leland Wilkinson has an A.B. from Harvard University, an S.T.B. degree from Harvard Divinity School, and a Ph.D. from Yale. He is currently adjunct professor of computer science at the University of Illinois at Chicago. Previously, he was adjunct professor of statistics at Northwestern University and President of SYSTAT Inc., a statistical software company he founded in 1984. Lee Wilkinson now serves as Vice President of Data Visualization at the Machine Learning Company Skytree, Inc.
Lee Wilkinson is a fellow of the American Statistical Association, an elected member of the International Statistical Institute, and a fellow of the American Association for the Advancement of Science. He recently served on the NAS Panel on Developing Science, Technology, and Innovation Indicators for the Future. His projects have included books, journal articles, the original SYSTAT statistics package, numerous open-source software packages, and patents in visualization and distributed computing.

Lee Wilkinson wrote SYSTAT, a statistical software package, in the early 1980s. This program was noted for its comprehensive graphics, including the first software implementation of the heatmap display now widely used among biologists. After his company grew to 50 employees,he sold it to SPSS in 1995. At SPSS, he assembled a team of graphics programmers who developed the nViZn platform that produces the visualizations in SPSS, Clementine, and other analytics products. The nViZn platform was modeled after Wilkinson's book on statistical graphics, The Grammar of Graphics. This book also influenced the development of the R package ggplot2 and the Polaris project at Stanford. Recently Lee Wilkinson also founded Advise Analytics, a Chicago-based scientific software company, that has launched a new system for statistics called AdviseStat, an intelligent analytics advisor.

His book The Grammar of Graphics, presents a unique foundation for producing almost every quantitative graphic found in scientific journals, newspapers, statistical packages, and data visualization systems. While the tangible results of this work have been several visualization software libraries, this book focuses on the deep structures involved in producing quantitative graphics from data. What are the rules that underlie the production of pie charts, bar charts, scatterplots, function plots, maps, mosaics, and radar charts? Those less interested in the theoretical and mathematical foundations can still get a sense of the richness and structure of the system by examining the numerous and often unique color graphics it can produce.

Two ideas we need to teach the media (and everyone else)

Abstract

A recent law passed in New York mandated that the state maintain a web-site that show maps of the incidence of various kinds of cancer as well as allowing the user to overlay on the map various plausible environmental causes (such as superfund sites, chemical storage locations and brownfields). This was passed over the objections of the state's Health Department and the American Cancer Society. In this talk we examine the wisdom of such a law.

About Howard Wainer

Howard Wainer received his Ph.D. from Princeton University in 1968. After serving on the faculty of the University of Chicago, a period at the Bureau of Social Science Research during the Carter Administration, and 21 years as Principal Research Scientist in the Research Statistics Group at Educational Testing Service, he is now Distinguished Research Scientist at the National Board of Medical Examiners and Professor (adjunct) of Statistics at the Wharton School of the University of Pennsylvania.

Howard Wainer was elected a Fellow in the American Statistical Association in 1985 and a Fellow of the American Educational Research Association in 2009. He was awarded the Educational Testing Service's Senior Scientist Award in 1990 and selected for the Lady Davis Prize and was named the Schonbrun Visiting Professor at the Hebrew University in 1992. He received the 2006 National Council on Measurement in Education Award for Scientific Contribution to a Field of Educational Measurement for his development of Testlet Response Theory and given NCME's career achievement award in 2007, and he received the Samuel J. Messick Award for Distinguished Scientific Contributions Award from Division 5 of the American Psychological Association in 2009.

Since 1974 when he published his first article on statistical graphics, an empirical verification of the efficacy of the suspended rootogram, Howard Wainer has been a tireless advocate for the efficacy of graphics for communicating quantitative phenomena. He is one of the principals responsible for the renewed importance of graphics in statistics, and he authored a number of books on graphical methods. Wainer's approach to the study of graphics has always shown a deep respect for the work of those who had preceded him. He also has, since 1990, written the popular column "Visual Revelations" for Chance magazine.

In his book Picturing the Uncertain World, Howard Wainer explores how graphs can serve as maps to guide us when the information we have is ambiguous or incomplete. Using a visually diverse sampling of graphical display, from heartrending autobiographical displays of genocide in the Kovno ghetto to the "Pie Chart of Mystery" in a New Yorker cartoon, Wainer illustrates the many ways graphs can be used--and misused--as we try to make sense of an uncertain world.