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Title:
The Task of the Applied Statistician -- how is it Different in 2013?

Abstract:
This talk will comment on implications for statisticians and statistical analysis of changes to date, and continuing changes, in computational technology and the internet. The place of statistics as an applied discipline is itself under challenge from views of data analysis --- 'data mining' or 'predictive analytics' --- that may present data analysis as first and foremost a computational task.

What mix of mathematically based theory and insights from practical computation will most effectively handle practical analysis demands. Theory remains an appropriate starting point for analyses in which insights from resampling or other computational approaches may be crucial for obtaining a near optimal result.

Claims that tree-based and other 'algorithmic' methods that are common in the data mining literature are free of assumptions invite a strong rebuttal. Whether the analysis task is viewed as statistical analysis or as data mining or as something else again, it is incumbent on the analyst to use all available sources of insight in assessing carefully the believability of assumptions that underpin an intended use of analysis results.

Examples of practical data analysis demands will be used to illustrate the points made. One example is the recent debacle relating to the Reinhart and Rogoff paper that had made a strong linkage between high public debt and the stifling of economic growth. Another is a paper that, using US accident data, claimed to show that in most circumstances airbags had increased the risk of death.