Kathleen MacNeal Biographical Sketch

Kathy Macneal is a Senior Statistician at Cox Associates, where she specializes in multivariate statistical modeling and data mining of large statistical data bases. Since joining Cox Associates in1997, she has led or contributed to many data mining and modeling efforts in consumer behavior and health and safety risk analysis, including the following.

Statistical transition modeling and simulation of customer behaviors.

Ms. Macneal created a discrete-event stochastic transition model of new product purchases, account attrition, and product drops over a five-year planning horizon for a customer base of over ten million residential telecommunications companies. She developed classification trees for over a dozen products and over 30 customer segments and produced a purchase behavior-prediction model that is now being used at U S WEST Communications to score customers and design marketing interventions and initiatives for several million individual customers in 14 states. Ms. Macneal's model has been used to predict which specific groups of customers are most (and least) likely to buy which specific telecommunications product in the next quarter, for over a dozen specific products.

Data mining and modeling of American Cancer Society data.

Ms. Macneal led the initial analysis and mining of a data set relating several hundred potential risk factors (including smoking, diet, occupational, and family history factors) to lung cancer and other cancer hazard rates for over a million ACS survey participants. She demonstrated and quantified a strong predictive relation between years since cessation of smoking and decrease in cancer risks, after controlling for over a dozen potential confounding factors using classification trees and multiple regression analysis.

Transition modeling of cable customer behaviors.

In 1998, Ms. Macneal successfully identified clusters of customers for the cable giant AT&T-TCI and predicted (a) Which ones were most likely to become digital cable subscribers; and (b) Which specific incentives were predicted to work best for different types of customers in causing them to upgrade to digital cable or other services.

Forecasting network traffic.

In 1998, Ms. Macneal also led the data analysis portion of a major effort to improve forecasting and display of network data, showing where capacity was most likely to become exhausted due to growth in lines over the next year. In earlier (1997) work, she quantified the economic and demographic factors that best predicted growth in lines using time series analysis.

In addition to these projects, Ms.Macneal has participated in the statistical design and analysis of related studies on customer perceptions of value and service quality, relations between risk factors, attitudes, and behaviors in marketing, and simulation of complex systems.

Ms. Macneal holds a B.A. in Applied Mathematics(University of Colorado, Denver, 1993) and an M.S. in Applied Mathematics/Statistics (University of Colorado, Denver, 1998). Her S.M. thesis developed a population based prostate cancer simulation model based on statistical analysis of patient records.

Prior to joining Cox Associates in 1997, Ms.Macneal worked for four years as a statistician and modeler at U S WEST Advanced Technologies, where her worked help win several prizes and awards for outstanding modeling.