Modeling Data with Nonparametric Methods Using SAS Software

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Abstract: Nonparametric analysis is widely used to model data for which knowledge of the underlying model is limited. This workshop is intended for a broad audience of statisticians and data analysts who are interested in nonparametric methods. The objectives are to describe the use of new nonparametric tools in SAS software for feature identification, data compression, curve fitting, and surface modeling. In the first part of this workshop, the following methods and tools are described: fitting local regression models with the LOESS procedures, fitting thin plate smoothing spline models with the TSPLINE procedure, fitting generalized additive models with the GAM procedure, and performing wavelet analysis with new SAS/IML subroutines. The second part of the workshop illustrates the use of these tools with several examples. Topics include curve fitting and surface modeling including smoothing parameter selection, prediction confidence limits, robustness to outliers, and feature identification using wavelet tools.