Decision Tree for Paired Comparison and Partial Rank Data

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Abstract

A decision tree method for discovering preference patterns in paired comparison and partial rank data is introduced. It utilizes a scoring system which coverts original response outcomes to score vectors. It then uses the regression tree method for multi-response data, GUIDE, to construct the decision tree. The preference ranking obtained by the tree method is shown to be identical to that given by the Bradley-Terry model when the 2-1-0 scoring system is employed. Real data examples are given to demonstrate some advantage of our method.