Adaptive Lasso for Randomized Response Survival Data

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Abstract

Surveys on sensitive topics frequently yield current status survival data that are subject to response bias. The randomized response technique (RRT) offers a principled approach to mitigating such bias by enhancing respondent privacy. In this work, we present an adaptive lasso procedure for variable selection in current status survival data collected under RRT. We establish the oracle property with valid standard error inference and accommodate the latent RRT structure through a modified shooting algorithm within an EM framework. Simulations and an application to survey data on extramarital sex demonstrate the method's validity and practical relevance.

Keyword: Current status data; Oracle property; Privacy-preserving; Shooting algorithm, Variable selection