Hybrid $L_{1/2+2}$ Method for Gene Selection in the Cox Proportional Hazards Model

Hai-Hui Huang , Yong Liang

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Highlights

- We extend the hybrid $L_{1/2+2}$ regularization (HLR) idea to the censored survival situation, a new edition of sparse Cox model based on the HLR regularization has been proposed.
- We developed two algorithms for solving the HLR penalized Cox model; one is the coordinate descent algorithm with HLR thresholding operator, the other is the weight iteration method.
- The results of empirical and simulations imply that the proposed strategy is highly competitive in studying high dimensional survival data among several state-of-the-art methods.

*Corresponding author