Best Subset Selection in Linear, Logistic and CoxPH Models

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Abstract: We introduce a new R package, BeSS, for solving the best subset selection problem in linear, logistic and Cox's proportional hazard (CoxPH) models. It utilizes a highly efficient active set algorithm based on primal and dual variables, and supports sequential and golden search strategies for best subset selection. We provide a C++ implementation of the algorithm using Rcpp interface. We demonstrate through numerical experiments based on enormous simulation and real datasets that the new BeSS package has competitive performance compared to other R packages for best subset selection purpose.