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January 29, 2021

Dear editors of the *Journal of Statistical Computing and Simulation*,

We are submitting our manuscript “Adaptive Hybrid Screening for Efficient Lasso Optimization” for your consideration as an original paper for publication in the *Journal of Statistical Computing and Simulation*.

Feature screening rules are an effective way of increasing the efficiency of lasso algorithms. However, it is often the case that the screening rules themselves require considerable computation time to calculate. Here, we propose an adaptive hybrid screening approach that reuses previous solutions to reduce heavy screening computations, and only initiates these computations when they significantly reduce dimensionality (thereby paying for themselves in computational burden). Through experiments involving a wide variety of simulated and real data sets, we show that this approach is significantly faster than competing methods, including the popular R package glmnet.

This work has not been previously published and is not under review elsewhere. This manuscript has been seen and approved by all authors. Thank you very much for your consideration.

Sincerely,

A handwritten signature in black ink, reading "Patrick Breheny".

Patrick Breheny  
Associate Professor  
Department of Biostatistics