

**RESTRICTED LEAST ANGLE REGRESSION ALGORITHM FOR LASSO**

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Least Absolute Shrinkage and Selection Operator (LASSO) method has been used for variable selection in the linear regression model when multicollinearity exists among the predictor variables. A popular algorithm to find LASSO solutions is known as the Least Angle Regression (LARS) algorithm. Researchers have shown that the estimation of regression parameters is improved when adding prior information to the model, which can be in the form of exact linear restrictions or stochastic linear restrictions. In this study, we modify the LARS algorithm by incorporating stochastic linear restrictions to improve the LASSO solutions. Further, we compared the performance of restricted LARS algorithm with the existing algorithm in Root Mean Square Error (RMSE) and Mean Absolute Prediction Error (MAPE) criterions using a Monte Carlo simulation study and a real-world example. The comparisons revealed that restricted LARS algorithm for LASSO shows better performance when prior information of regression coefficients is available.

**Keywords:** Least Angle Regression, LASSO, Root Mean Square Error, Stochastic linear restrictions