RIDGE REGRESSION ESTIMATOR: COMBINING UNBIASED AND ORDINARY RIDGE REGRESSION METHODS OF ESTIMATION

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Abstract. Statistical literature has several methods for coping with multicollinearity. This paper introduces a new shrinkage estimator, called modified unbiased ridge (MUR). This estimator is obtained from unbiased ridge regression (URR) in the same way that ordinary ridge regression (ORR) is obtained from ordinary least squares (OLS). Properties of MUR are derived. Results on its matrix mean squared error (MMSE) are obtained. MUR is compared with ORR and URR in terms of MMSE. These results are illustrated with an example based on data generated by Hoerl and Kennard [8].

Full text

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