

Reducing Response Categories in Multinomial Logistic Regression

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Keywords: Multinomial Logistic Regression, Fusion Penalties, Response Category Selection

In multinomial logistic regression a multi-category response variable is predicted using a set of predictor variables. Much interest has been shown in the develop of penalized likelihood estimators to create a simpler model in multinomial logistic regression, through shrinkage of regression coefficients. In this talk we will discuss developments of a fusion penalized likelihood estimator using the baseline category parametrization to create a simpler model by reducing the number of response categories. An ADMM algorithm is developed and convergence is established. We show the merits of our method on both simulated and real data.