

Report :

I have used the following

Loss function: Ordinary Least Square regression loss function with a regularizer term

Regularizer: L2 regularizer

Validation: Cross-validation with $k = 3$

Work procedure:

Initially split the training data into equal 3 sets and performed training on two sets and validation tests on another set. Performed 3-fold validation. Finally picked that model which performed well (ie) Ridge regression model against Lasso and ordinary regression. The ridge model has minimum average training loss and validation loss compared to the other two models. Finally, trained the ridge model with the whole training data and found the value λ . The regulariser parameter on increasing decreased training and validation loss up to some value and afterward the loss has been increased because the model underwent underfitting