Experiment 9

The aim of the experiment is to understand the types of regression metrics used and to understand the utility of K-Fold cross validation.

1. Read the file ‘electricalpower.csv’ using read_csv() in pandas. Construct feature and label matrix. The first four column are the features and the fifth column is the label. Split the dataset into 80% training set and 20% test set.

2. Scale the features to zero mean and unit variance.

3. Create a four layer neural network model for regression with 8 neurons in first hidden layer and 4 neurons in second hidden layer. Fit the model and make predictions on the test set.

4. Print Mean Absolute Error, Root Mean Squared Error and Coefficient of Determination (R2) on the test set. Also plot the true values and predicted values.

5. Implement 5 fold cross-validation and print the metrics in step 4 for the 5 fold cross-validation case.