A List of Regression Models' Evaluation Metrics Calculated by WEKA

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1. **Sensitive stats - certainty of predictions**
   (a) **Mean Absolute Error:** Returns the mean absolute error.
   (b) **Root Mean Squared Error:** Returns the root mean squared error.
   (c) **Relative Absolute Error:** Returns the relative absolute error.
   (d) **Root Relative Squared Error:** Returns the root relative squared error if the class is numeric.

$$MAE = \frac{\sum_{i=1}^{n}|p_i - a_i|}{n} \qquad RMSE = \sqrt{\frac{\sum_{i=1}^{n}(p_i - a_i)^2}{n}}$$

$$RAE = \frac{\sum_{i=1}^{n}|p_i - a_i|}{\sum_{i=1}^{n}|\bar{a} - a_i|} \qquad RSE = \frac{\sum_{i=1}^{n}(p_i - a_i)^2}{\sum_{i=1}^{n}(\bar{a} - a_i)^2}$$

a = actual target

p = predicted target

Figure 1: Metrics

   (e) **Correlation Coefficient:** Returns the correlation coefficient if the class is numeric.

2. **SF stats**
   (a) **SF Prior Entropy:** Returns the total entropy for the null model.
   (b) **SF Mean Scheme Entropy:** Returns the entropy per instance for the scheme

(c) **SF Entropy Gain:** Returns the total SF, which is the null model entropy minus the scheme entropy.

(d) **SF Mean Prior Entropy:** Returns the entropy per instance for the null model.

(e) **SF Scheme Entropy:** Returns the total entropy for the scheme.

(f) **SF Mean Entropy Gain:** Returns the SF per instance, which is the null model entropy minus the scheme entropy, per instance.

3. Number_of_training_instances
4. Number_of_testing_instances
5. Elapsed_Time_training
6. Elapsed_Time_testing
7. UserCPU_Time_training
8. UserCPU_Time_testing
9. Serialized_Model_Size
10. Serialized_Train_Set_Size
11. Serialized_Test_Set_Size