

| Evaluation Approach / Metric                                          | Appropriate Data Types | Mathematic Definition (if applicable)                                                                 | ArcPy function (if applicable)    | How to do in python                                              | What metrics is this approach similar / different to?    | Sources                                               |
|-----------------------------------------------------------------------|------------------------|-------------------------------------------------------------------------------------------------------|-----------------------------------|------------------------------------------------------------------|----------------------------------------------------------|-------------------------------------------------------|
| Confusion Matrix                                                      | Binary/Multiclass      | N/A                                                                                                   | arcpy.gp.ComputeConfusionMatrix() | sklearn.metrics.confusion_matrix()                               | Similar: Sensitivity, Specificity, F1-Score              | <a href="#">ArcPy</a> and <a href="#">sklearn</a>     |
| Accuracy                                                              | Binary/Multiclass      | $TP + TN / TP + TN + FP + FN$                                                                         | N/A                               | sklearn.metrics.accuracy_score()                                 | Similar: Error Rate, Balanced Accuracy                   | <a href="#">sklearn</a>                               |
| Precision                                                             | Binary/Multiclass      | $TP / TP + FP$                                                                                        | N/A                               | sklearn.metrics.precision_score()                                | Similar: Recall, F1-Score                                | <a href="#">sklearn</a>                               |
| Recall                                                                | Binary/Multiclass      | $TP / TP + FN$                                                                                        | N/A                               | sklearn.metrics.recall_score()                                   | Similar: Precision, F1-Score                             | <a href="#">sklearn</a>                               |
| True Positives                                                        | Binary/Multiclass      | N/A                                                                                                   | N/A                               | numpy.ravel() on a sklearn confusion matrix                      | Similar: False Positives, True Negatives                 | <a href="#">sklearn</a> and <a href="#">NumPy</a>     |
| False Positives                                                       | Binary/Multiclass      | N/A                                                                                                   | N/A                               | numpy.ravel() on a sklearn confusion matrix                      | Similar: True Positives, False Negatives                 | <a href="#">sklearn</a> and <a href="#">NumPy</a>     |
| Receiver Operator Characteristic (ROC) Curve and Area Under the Curve | Binary                 | N/A                                                                                                   | N/A                               | sklearn.metrics.roc_auc_score()                                  | Similar: Precision-Recall Curve and Area Under the Curve | <a href="#">sklearn</a>                               |
| R-squared                                                             | Continuous             | $[(n\sum xy - (\sum x)(\sum y)) / (\sqrt{n\sum x^2 - (\sum x)^2} * \sqrt{n\sum y^2 - (\sum y)^2})]^2$ | N/A                               | sklearn.metrics.r2_score()                                       | Similar: Adjusted R-Squared                              | <a href="#">sklearn</a> and <a href="#">Statology</a> |
| Adjusted R-Squared                                                    | Continuous             | $1 - [(1-R^2)*(n-1)/(n-k-1)]$                                                                         | N/A                               | $1 - [(1 - sklearn.metrics.r2_score()) * (n - 1) / (n - k - 1)]$ | Similar: R-Squared                                       | <a href="#">sklearn</a> and <a href="#">Statology</a> |
| Root Mean Square Error                                                | Continuous             | $\sqrt{\sum (y_i - \hat{y}_i)^2 / n}$                                                                 | N/A                               | sklearn.metrics.mean_squared_error()                             | Similar: Mean Absolute Error                             | <a href="#">sklearn</a> and <a href="#">Statology</a> |
| Mean Absolute Error                                                   | Continuous             | $1/n * \sum  y_i - \hat{y}_i $                                                                        | N/A                               | sklearn.metrics.mean_absolute_error()                            | Similar: Root Mean Square Error                          | <a href="#">sklearn</a> and <a href="#">Statology</a> |
| Residual Standard Error                                               | Continuous             | $\sqrt{MSE}$                                                                                          | N/A                               | numpy.sqrt(sklearn.metrics.mean_squared_error())                 | Similar: Root Mean Square Error, Mean Absolute Error     | <a href="#">DataCamp</a>                              |
| Akaike's Information Criterion (AIC)                                  | Continuous             | $2K - 2\ln(L)$                                                                                        | N/A                               | statsmodels.OLS(y, x).fit().aic                                  | Similar: Bayesian Information Criterion (BIC)            | <a href="#">Statology</a>                             |
| Bayesian Information Criterion (BIC)                                  | Continuous             | $(RSS + \log(n)d\sigma^2) / n$                                                                        | N/A                               | statsmodels.OLS(y, x).fit().bic                                  | Similar: Akaike's Information Criterion (BIC)            | <a href="#">Statology</a>                             |