**Appendix A** :

MODEL CHOICE

|  |  |  |  |
| --- | --- | --- | --- |
| # | description | range | one hot |
| 0 | balancing:strategy | {0,1} | none / weighting |
| 1 | imputation:strategy | {0,1} | not mean / mean |
| 2 | imputation:strategy | {0,1} | not median / median |
| 3 | imputation:strategy | {0,1} | not most\_frequent/most\_frequent |
| 4 | rescaling:\_\_choice\_\_ | {0,1} | not none/none |
| 5 | rescaling:\_\_choice\_\_ | {0,1} | not minmax/minmax |
| 6 | rescaling:\_\_choice\_\_ | {0,1} | not normalize/normalize |
| 7 | rescaling:\_\_choice\_\_ | {0,1} | not standardize/standardize |
| 8 | preprocessor:\_\_choice\_\_ | {0,1} | no\_preprocessing/PCA |
| 9 | classifier:\_\_choice\_\_ | {0,1} | bernoulli\_nb/qda |
| 10 | one\_hot\_encoding:use\_minimum\_fraction | {0,1} | True/False |
| 11 | one\_hot\_encoding:minimum\_fraction | [0.0001, 0.5] |  |
| 12 | preprocessor:pca:keep\_variance | [0.5, 0.9999] |  |
| 13 | preprocessor:pca:whiten | {0,1} | True/False |
| 14 | classifier:bernoulli\_nb | [0.01, 100.0] |  |
| 15 | classifier:bernoulli\_nb:fit\_prior | {0,1} | True/False |
| 16 | classifier:qda:reg\_param | [0.0, 1.0] |  |

**Appendix B:**

METADATA

|  |  |
| --- | --- |
| # | description |
| 0 | ClassEntropy |
| 1 | SymbolsSum |
| 2 | SymbolsSTD |
| 3 | SymbolsMean |
| 4 | SymbolsMax |
| 5 | SymbolsMin |
| 6 | ClassProbabilitySTD |
| 7 | ClassProbabilityMean |
| 8 | ClassProbabilityMax |
| 9 | ClassProbabilityMin |
| 10 | InverseDatasetRatio |
| 11 | DatasetRatio |
| 12 | RatioNominalToNumerical |
| 13 | RatioNumericalToNominal |
| 14 | NumberOfCategoricalFeatures |
| 15 | NumberOfNumericFeatures |
| 16 | NumberOfMissingValues |
| 17 | NumberOfFeaturesWithMissingValues |
| 18 | NumberOfInstancesWithMissingValues |
| 19 | NumberOfFeatures |
| 20 | NumberOfClasses |
| 21 | NumberOfInstances |
| 22 | LogInverseDatasetRatio |
| 23 | LogDatasetRatio |
| 24 | PercentageOfMissingValues |
| 25 | PercentageOfFeaturesWithMissingValues |
| 26 | PercentageOfInstancesWithMissingValues |
| 27 | LogNumberOfFeatures |
| 28 | LogNumberOfInstances |
| 29 | LandmarkRandomNodeLearner |
| 30 | SkewnessSTD |
| 31 | SkewnessMean |
| 32 | SkewnessMax |
| 33 | SkewnessMin |
| 34 | KurtosisSTD |
| 35 | KurtosisMean |
| 36 | KurtosisMax |
| 37 | KurtosisMin |

**Appendix C :**

MODEL ACTION

|  |  |  |  |
| --- | --- | --- | --- |
| # | description | range | probability distribution |
| 0 | balancing:strategy | [0,1] | none / weighting |
| 1 | imputation:strategy | [0,1] | not mean / mean |
| 2 | imputation:strategy | [0,1] | not median / median |
| 3 | imputation:strategy | [0,1] | not most\_frequent/most\_frequent |
| 4 | rescaling:\_\_choice\_\_ | [0,1] | not none/none |
| 5 | rescaling:\_\_choice\_\_ | [0,1] | not minmax/minmax |
| 6 | rescaling:\_\_choice\_\_ | [0,1] | not normalize/normalize |
| 7 | rescaling:\_\_choice\_\_ | [0,1] | not standardize/standardize |
| 8 | preprocessor:\_\_choice\_\_ | [0,1] | no\_preprocessing/PCA |
| 9 | classifier:\_\_choice\_\_ | [0,1] | bernoulli\_nb/qda |
| 10 | one\_hot\_encoding:use\_minimum\_fraction | [0,1] | True/False |
| 11 | one\_hot\_encoding:minimum\_fraction | [0.0001, 0.5] |  |
| 12 | preprocessor:pca:keep\_variance | [0.5, 0.9999] |  |
| 13 | preprocessor:pca:whiten | [0,1] | True/False |
| 14 | classifier:bernoulli\_nb | [0.01, 100.0] |  |
| 15 | classifier:bernoulli\_nb:fit\_prior | [0,1] | True/False |
| 16 | classifier:qda:reg\_param | [0.0, 1.0] |  |

**Appendix D :**

PERFORMANCE

|  |  |
| --- | --- |
| # | description |
| 0 | train\_accuracy\_score |
| 1 | test\_accuracy\_score |
| 2 | train\_log\_loss |
| 3 | test\_log\_loss |