List of meta-features

1. Common:
    - Number of instances (NumberOfInstances);
    - Number of features (NumberOfFeatures);
    - Number of classes (NumberOfClasses);
    - Data set dimensionality (DataSetDimensionality).
2. Statistical (all values are mean by all non-class attributes):
    - Standard deviation (MeanStandardDeviation);
    - Variation coefficient (MeanCoefficientOfVariation);
    - Correlation coefficient (MeanLinearCorrelationCoefficient);
    - Skewness (MeanSkewness);
    - Kurtosis (MeanKurtosis).
3. Information theory based:
    - Average normalized features entropy (MeanNormalizedFeatureEntropy);
    - Normalized class attribute entropy (NormalizedClassEntropy);
    - Maximal mutual information between the attribute and the class (MaxMutualInformation);
    - Average mutual information between the attribute and the class (MeanMutualInformation);
    - Ration of signal noise (NoiseSignalRatio);
    - Number of equivalent features (EquivalentNumberOfFeatures).
4. Decision tree based:
    - Tree height (TreeHeight);
    - Tree width (TreeWidth);
    - Number of inner vertexes (TreeNodeNumber);
    - Number of leaves (TreeLeavesNumber);
    - Minimum branch length (TreeMinBranch);
    - Maximum branch length (TreeMaxBranch);
    - Average branch length (TreeMeanBranch);

- Standard deviation of the tree branch length (TreeDevBranch);
- Maximum number of vertexes on the same tree level (TreeMaxLevel);
- Average number of vertexes on the same tree level (TreeMeanLevel);
- Standard deviation of the vertexes on the same tree level (TreeDevLevel);
- Minimum number of inner features that are matching to the same attribute (TreeMinAttr);
- Maximum number of inner features that are matching to the same attribute (TreeMaxAttr);
- Average number of inner features that are matching to the same attribute (TreeMeanAttr);
- Standard deviation of the number of inner features that are matching to the same attribute (TreeDevAttr);
- Minimum number of leaves that are matching to the same class (TreeMinClass);
- Maximum number of leaves that are matching to the same class (TreeMaxClass);
- Average number of leaves that are matching to the same class (TreeMeanClass);
- Standard deviation of the number of leaves that are matching to the same class (TreeDevClass).

5. Based on the perceptron structure (Sum of weights is the sum of all weights at the perceptron; N — number of objects in the set):
   - Weights sum at the full dataset (FullPerceptronWeightSum);
   - Minimum weights sum; subsamples sizes are $N/10, N/2, \sqrt{N}$ (MinOneTenthPerceptronWeightSum, MinHalfPerceptronWeightSum, MinSqrtPerceptronWeightSum);

- Maximum weights sum; subsamples sizes are $N/_{10}, N/_{2}, \sqrt{N}$ (MaxOneTenthPerceptronWeightSum, MaxHalfPerceptronWeightSum, MaxSqrtPerceptronWeightSum);
- Average weights sum; subsamples sizes are $N/_{10}, N/_{2}, \sqrt{N}$ (MeanOneTenthPerceptronWeightSum, MeanHalfPerceptronWeightSum, MeanSqrtPerceptronWeightSum);
- Standard deviation of the weights sum; subsamples sizes are $N/_{10}, N/_{2}, \sqrt{N}$ (StdDevOneTenthPerceptronWeightSum, StdDevHalfPerceptronWeightSum, StdDevSqrtPerceptronWeightSum).

6. KNN best parameter based:

- Number of neighbors for the full dataset (FullBestK);
- Minimum number of neighbors; subsamples sizes are $N/_{10}, N/_{2}, \sqrt{N}$ (MinOneTenthBestK, MinHalfBestK, MinSqrtBestK);
- Maximum number of neighbors; subsamples sizes are $N/_{10}, N/_{2}, \sqrt{N}$ (MaxOneTenthBestK, MaxHalfBestK, MaxSqrtBestK);
- Minimum number of neighbors; subsamples sizes are $N/_{10}, N/_{2}, \sqrt{N}$ (MeanOneTenthBestK, MeanHalfBestK, MeanSqrtBestK);

Standard deviation of the number of neighbors; subsamples sizes are $N/_{10}, N/_{2}, \sqrt{N}$ (StdDevOneTenthBestK, StdDevHalfBestK, StdDevSqrtBestK).