



Multivariate dictionary- based Classifiers (Teaser)

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Data Preprocessing

Raw Sensor Data

4.1 5.7 3.2 1.4 2.3 5.8 6.3 6.3 3.2 2.1 1.0 1.4 2.1 2.6 5.2



Range Normalization
Time Synchronization
Data Binning
Alphabet Mapping

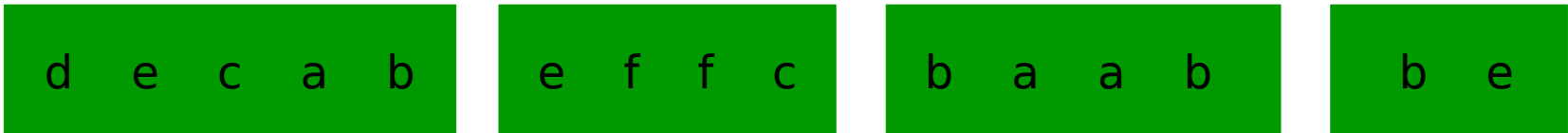


Discretized Data

d e c a b e f f c b a a b b e

Feature Engineering

Discretized Sliding Windows



Histogram
TF-IDF
Bigrams
Frequent Itemsets



Feature Vector

0 0 3 0 0 0 1 0 5 0 0 0 0 0 0 4 3 4 2 0 0 0 0 0 4 0 7 0 0 1 0 7 0 0

Classification

Feature Vectors

0 0 3 0 0 0 1 ...

0 0 7 0 4 0 1 ...

1 1 0 0 8 3 1 ...

Logistic Regressor
Random Forest
Kneighbors



Classes

urban area

grassland

forest