Why to use lda algorithm

* Example: to determine if a medicine should be consumed by a person and whether the medicine will be beneficial or harmful to the person (by plotting a graph of any one or more factor).
* The more quantities taken gives the better result. More than 4 values cannot be taken as we cannot plot 4-D graph.
* Linear discriminant analysis (LDA) is like PCA, but it focuses on maximizing the separability among known categories.
* Reducing 2d graph to 1d graph – makes a new axis such that the distance between the two means of the factors is the maximum (µ1 and µ2) and minimize the variation (‘scatter’ and is represented by s2) with each factor.
* Formula: (µ1- µ2)2  ideally large

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S12 + S22  ideally small

* Same thing any be performed to reduce 3d graph to 1d graph when there are still 2 factors.
* When there are 3 factors – find a central point and then maximize the difference between the means of all the 3 factors.

Tools used

* Weka
* Rapid miner
* NLTK – natural language toolkit
* KNIME
* Orange