Naive Bayes Classification of Iris

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GUIDE

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Tool : Orange

- Orange is a component based data mining tool.
- It supports Python bindings and libraries for scripting.
- It provides various drop and down options to visualize, classify and evaluate.

AIM : Classification of iris of flower

- Types of iris :
  - Iris- setosa
  - Iris-versicolor
  - Iris-virginica

- Attributes which determines the type of iris
  - sepal length
  - sepal width
  - petal length
  - petal width

Naive Bayes classification

- This classification is based on Bayes Theorem.
- Assumption : Effect of an attribute value on a given class is independent of the values of other attributes.
- **Theorem** :

  Let X be data tuple and H be some hypothesis

  P(X) : Prior probablity of X

  P(H) : Prior probablity of H

  P(X|H) : Posterior probablity of X conditined on H

  $$P(H|X) = P(X|H)P(H) / P(X)$$

Results

- Classification of data into three different classes using Naive Bayes classification.
- Obtaining confusion matrix.
- Examining performance measures like Accuracy, Sensitivity, Specificity, Precission and Recall.
- Comparing Naive Bayes classification with SVM classification

THANK YOU