Types of Naive Bayes

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- Gaussian Naive Bayes
- Multinomial Naive Bayes
- Bernoulli Naive Bayes

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- Gaussian Naive Bayes
  - When variables are continuous
  - Assumes a normal distribution of variables

Types of Naive Bayes

- Gaussian Naive Bayes
- Multinomial Naive Bayes
  - When the features represent frequency
  - Ignores non-occurrence of features
  - Works well with text classification problems

Types of Naive Bayes

- Gaussian Naive Bayes
- Multinomial Naive Bayes
- Bernoulli Naive Bayes
  - When features are binary
  - Penalize non-occurrence of a feature

Advantages of Naive Bayes

- Easier to build and understand
- Faster than other algorithms
- Easily scalable
- Popular choice for text classification problems

Applications of Naive Bayes

- Often used real-world applications (apps) that are required to respond to user’s requests instantaneously

- Other common applications - filtering spam, classifying documents, sentiment prediction

Important points about Naive Bayes

- All the features are considered to be independent of each other.
- Continuous features must have normal distribution. Apply transformations if needed.
- Using Multinomial, if test data has a feature with 0 frequency, use laplace correction, i.e., add 1 to all the frequency values.
- Remove highly correlated features as they are counted twice.