



# Weather prediction

- It is used to **Predict and forecast** the weather condition of specific region based on the available **pre historical data** .
- It helps to save resources and prepare for **the changes forth coming**.



# Text classification

- It is used in **text classification** have a higher success rate as compared to other algorithms.

```
x love xxxxxxxxxxxxxxxxxxxx sweet
xxxxxxxx satirical xxxxxxxxxxxx
xxxxxxxxxxxx great xxxxxxxx
xxxxxxxxxxxxxxxxxxxxxxxx fun xxxx
xxxxxxxxxxxxxxxx whimsical xxxx
romantic xxxx laughing
xxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxx
xxxxxxxxxxxxxxxx recommend xxxxxx
xxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxx
xx several xxxxxxxxxxxxxxxxxxxx
xxxxx happy xxxxxxxx again
xxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxx
xxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxx
```

# Advantages

- It is very **simple** and **easy** to implement.
- Needs **less** training data.
- Handles both **categorical** and **discrete** data.
- **Highly scalable** with number of prediction and data points.
- As it is fast, it can be used in **real time prediction**.
- **Not sensitive** to irrelevant features.

# Limitations

- It makes a very **strong assumption** on the **shape of your distribution** i.e. any two features are independent given the output class.
- **Data scarcity** can result in probabilities going towards 0 or 1, which in turn leads to **numerical instabilities**.
- It is common to use a binning procedure to make **continuous features discrete**, but if you are not careful you can **throw away a lot of information**.