Variants of Naive Baye's

1. Bernoulli Naive Bayes
2. Multinomial Naive Bayes
3. Gaussian Naive Bayes

1. Bernoulli Naive Bayes

Whenever your features are following a Bernoulli Distribution, then we use Bernoulli Naive Bayes

Bernoulli ⟶ 0, 1

$P(\text{Success}) = 1 = p$

$P(\text{fail}) = 0 = 1 - p$

Dataset:

f1	f2	f3	O/P
Yes	Pass	Male	Yes
No	Fail	Female	No
Yes	Pass	Male	Yes
No	Pass	Female	No
Yes	Pass		

2. Multinomial Naive Bayes ⇒ I/P = Text

Dataset: Sentiment Analysis

⇈ I/P

Review Message	O/P
The product is really good	Positive
The product is bad	Negative

⇊

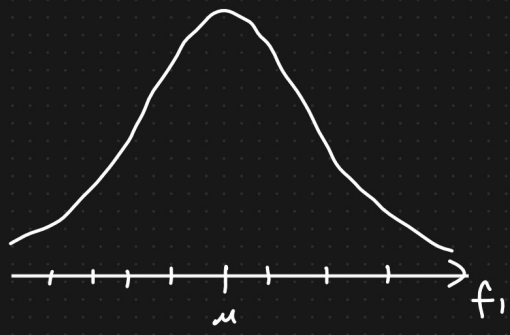
Numerical Values => Natural Language Processing

1. BOW
2. Tf-IDF
3. Word2Vec

3. Gaussian Naive Bayes

If the features are following Gaussian Distribution then we use Gaussian Naive Baye's Algorithm to solve Classification problem

IRIS Dataset



[Continuous features]

Age	Height	Weight	Yes/No
25	170	78	
28	160	75	
32	170		
34	140		