Naive Bayes
Tuesday, December 15, 2020 1:00 PM

Q: Guess the, what?

- Agenda:
  - Intro: Bayes
  - Gaussian Distribution / Random variables
  - Mathematical Tractions
    - In Training Sensitivity
  - Naive Assumption
  - Time & Space Complexity
  - Laplace Smoothing

Bayes theorem

$$\frac{\text{Prior} \times \text{Likelihood}}{\text{Evidence}} = \text{Posterior}$$

(/ "Best classification")

$$\frac{\text{Prior} \times \text{Likelihood}}{\text{Evidence}}$$

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$(y=1)$ ① Objects are overlap and many
$(y=0)$ ② Mostly independent of the Prior

"Impact" → Objects for, overlap and many, "only" "not all" "don't know how"

$$\frac{\text{Prior} \times \text{Likelihood}}{\text{Evidence}} = \text{Posterior}$$

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- Data

$$\text{Data} = \begin{array}{c} \text{Prior} \\ \text{Likelihood} \\ \text{Evidence} \\ \text{Posterior} \end{array} \rightarrow \begin{array}{c} \text{Prior} \\ \text{Posterior} \end{array}$$

Data - the network

① Conversation — "word vectors"
② "Search" "Ads" "Search" "Advertising"
③ "Search" "Ads" → Search → Search results.
④ Search Engineers — ⊙
⑤ Internet Phenomena
Ex. Jo, Ex, Mo, Ma, Ji, Ma...

Internet Phenomena / Internet Phenomena

Data Distribution of that

Data Distribution of that

Data Distribution of that