

2023180 96

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cat

Training - Just plain boring
- entirely predictable & lacks energy
- no surprises & very few laughs
+ very powerful
+ The most film of the summer

Test ? predictable with no fun.

$$P(W|C) = \frac{\text{count}(W, C) + 1}{\text{count}(C) + |V|}$$

$|V| = \text{unique words} = 20$

Prior $\rightarrow P(-) = \frac{3}{5}$

$P(+) = \frac{2}{5}$

Other conditional probabilities

$$P(\text{Predictable} | -) = \frac{1+1}{13+20} = \frac{2}{33}$$

$$P(\text{Predictable} | +) = \frac{0+1}{20+8} = \frac{1}{28}$$

$$P(\text{width} | +) = \frac{0+1}{8+28} = \frac{1}{28}$$

$$P(\text{width} | -) = \frac{0+1}{13+20} = \frac{1}{33}$$

$$P(\text{no} | +) = \frac{0+1}{8+28} = \frac{1}{28}$$

$$P(\text{no} | -) = \frac{1+1}{13+20} = \frac{2}{33}$$

$$P(\text{fun} | +) = \frac{0+1}{8+28} = \frac{1}{28}$$

$$P(\text{fun} | -) = \frac{0+1}{13+20} = \frac{1}{33}$$

$$P(\text{fun} | +) = \frac{1+1}{8+28} = \frac{2}{28} = \frac{1}{14}$$

$$P(+ | \text{test}) = \frac{2}{5} \times \frac{1}{28} \times \frac{1}{28} \times \frac{1}{28} \times \frac{1}{14} \approx \frac{2}{1536640}$$

$$P(- | \text{test}) = \frac{2}{5} \times \frac{2}{33} \times \frac{1}{33} \times \frac{2}{33} \times \frac{1}{3} = \frac{12}{592965}$$

$$P(- | \text{test}) > P(+ | \text{test})$$

Hence Test belongs to - class