

- Categorical data: ordinal, nominal and binary.
- Generative classifiers. Steps in modeling: model selection; density estimation of the data; classification of new data.
- **Bayesian Theorem.** $p(c|x) = \frac{p(c,x)}{p(x)} = \frac{p(x|c)p(c)}{p(x)}$. c : the model to be inferred. x : the observations. $p(x|c)$: the likelihood. $p(c)$ the prior. $p(c|x)$ the posterior. $p(x)$ the evidence.
- Something more about Bayes. $p(c|x)$ means the probability of c given x . Take a concrete example. $p(L|W) = 0.75$ (from Wikipedia)—the probability of a woman with long hair is 75%. Or rather, the probability of event L given event W is 0.75.
- Even something more. $P(A|B) = \frac{P(B|A)P(A)}{P(B)}$. $P(A)$ the prior, the initial degree of belief in A . $P(A|B)$ the posterior, the degree of belief having accounted for B .
- **Bayes decision rule.** $p(x)$ is independent of the class and $p(c)$ is frequently assumed to be the *same* for all classes.
- Life is never easy when you go abroad, alone.