

$$P : \Omega \rightarrow [0; 1]$$

$$P(\Omega) = 1$$

$$P(\emptyset) = 0$$

$$P(A) = \sum_{i=1}^n P(A_i) \times P(A|A_i)$$

$$P(\bar{A}) = 1 - P(A)$$

$$P(A \cup B) = P(A) + P(B), \quad A \cap B = \emptyset$$

$$P(A \cup B) = P(A) + P(B) - P(A \cap B)$$

$$P(A \cap B) = P(A) \times P(B), \quad A \cap B = \emptyset$$

$$P(A|B) = P_B(A) = \frac{P(A \cap B)}{P(B)}$$

$$A_i \cap A_j = \emptyset, \quad (\forall) i, j \in \mathbb{N}, \quad i \neq j$$

$$\bigcup_{i=1}^n A_i = \Omega$$

$$\text{Formula Bayes: } P(A_i|A) = \frac{P(A_i) \times P(A|A_i)}{\sum_{i=1}^n P(A_i) \times P(A|A_i)}$$