Activity 10: Familiarizing with General Concepts of Uncertainty

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- Conditional probability(formula) is the probability of that an event can occur, knowing that also another event occurs.

$$P(A \mid B) = \frac{P(A \cap B)}{P(B)}.$$

- Total probability (formula) is the sum of the probabilities of mutually exclusive events where B in an arbitrary event and P(B|An) is the conditional probability of B assuming An

$$P(B) = P(B \mid A_1)\,P(A_1) + \ldots + P(B \mid A_n)\,P(A_n),$$

- Chain Rule (formula) is a formula that allows the calculation of any members of the joint distribution of a set of random variables using only conditional probabilities.

$$P(A \cap B) = P(A \mid B) \cdot P(B)\,.$$

- Prior: An event or knowledge that occurs before a different event to analyze
- Posterior: Is the event or knowledge generated after or consequence of an occured event
- Conditional Dependence: is the relationship between two or more events that are dependent of a third one
- Conditional independence two events (which may be dependent or not) become independent given the occurrence of a third event.
- Distribution of Probability / Probability distribution is a mathematical function that provides the probabilities of occurrence of different possible outcomes in an experiment.
- Bayes theorem is a proposition that shows the conditional probability o a random event A considering B in conditional terms of B given A and the marginal distribution de A
- Bayesian is a probabilistic graphical model) that represents a set of variables and their conditional dependencies by using a graph, usually they are for taking an event that occurred and predicting the possibilities of following with that common factor.

References

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