Probability & Entropy

Semester 1, 2022

Kris Ehinger

Outline

- Variable types

- Probability basics

- Probability distributions

- Entropy

- Bayes' rule

Variable types

Attribute types

- Each instance can have many attributes
- Attributes can be various types
    - Nominal (or categorical)
    - Ordinal
    - Continuous (or numerical)

Nominal/categorical variable

- Variable can take multiple values which are discrete types or categories
    - outlook: sunny, overcast, rainy
    - object: car, bike, pedestrian, street sign, …

- There is no natural ordering of the values; they are all equally dissimilar from each other

- **boolean** is a special type of nominal variable with only two possible values
    - isMonday: true, false