

Basic Statistics for Machine Learning

Demetri Pananos



Western

Department of Epidemiology & Biostatistics
Schulich School of Medicine & Dentistry
Western University

2018-10-24

This Will Not Be Enough

- ▶ I'm not here to make you statisticians over night.
- ▶ I'm here to familiarize you with statistical concepts that might appear when you dabble in ML/DS/CSS.

Probability

The Sum Rule

$$p(X) = \sum_Y P(X, Y)$$

The Product Rule

$$P(X, Y) = p(Y|X)P(X)$$

We Can Recover Bayes' Rule

$$\begin{aligned} P(Y|X) &= \frac{P(X, Y)}{P(X)} \\ &= \frac{P(X|Y)P(Y)}{\sum_Y P(X|Y)P(Y)} \end{aligned}$$

Thank You

Thank You

This presentation was made in Rstudio with Rmarkdown