


Distributions, Simulation, and Hypothesis Testing



Review

- Counts and combinatorics
 - $N!$ ways to order N things
 - Combinations – order does not matter
 - Permutations – care about order
- Probability
 - Axioms of probability
 - Set operations – union, intersection, negation
 - Independence: $P(A \text{ and } B) = P(A) P(B)$
 - Mutually exclusive events
 - Conditional probability: $P(A | B)$

Schedule

Part 1

Lesson 1

Data Exploration 1

Lesson 2

Data Exploration 2

Milestone 1

Data Visualization

Part 2

Lesson 3

Combinatorics

Lesson 4

Hypothesis Testing

Lesson 5

Intro to Bayes

Milestone 2

Hypothesis Sim

Part 3

Lesson 6

Intro to Regression

Lesson 7

Regularization

Lesson 8

Time Series Analysis

Milestone 3

Regression Models

Part 4

Lesson 9

Näive Bayes

Lesson 10

Basic Text Analysis

Milestone 4

Independent Project

Reminders!

- Milestone 01 is due tonight!
- Quiz 04 must be completed by February 3
- Discussion 04 must be completed by February 3
- Assignment 03 is **due February 4! - simulation**