#### Statistical Inference

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### **Probability Theory**

- 1.1 Random Variables
- 1.2 Common Distributions
- 1.3 Conditional Probability and Independence

# **Estimation Theory**

- 2.1 Point Estimation
- 2.2 Interval Estimation
- 2.3 Properties of Estimators

# Hypothesis Testing

- 3.1 Tests of Significance
- 3.2 Neyman-Pearson Lemma
- 3.3 Likelihood Ratio Tests

# **Bayesian Inference**

- 4.1 Bayes' Theorem
- 4.2 Prior and Posterior Distributions
- 4.3 Bayesian Estimation