A Frequentist’s Introduction to Bayesian Statistics

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In the early 20th century, prominent statisticians advocated a “frequentist” method for statistical analyses. This method incorporated a heavy use of the Central Limit Theorem to test hypotheses and create interval estimates of unknown population parameters. In recent years, there has been a resurgence in what is called a “Bayesian” method of statistical analyses, named after English theologian Thomas Bayes, that suggests using a prior distribution on unknown population parameters and updating this distribution when more data is acquired. In this talk, we’ll introduce Bayes Rule, discuss the differences in frequentist and Bayesian philosophies on probability and methods of statistical analysis, and look at statistical software used by Bayesians to do analyses.