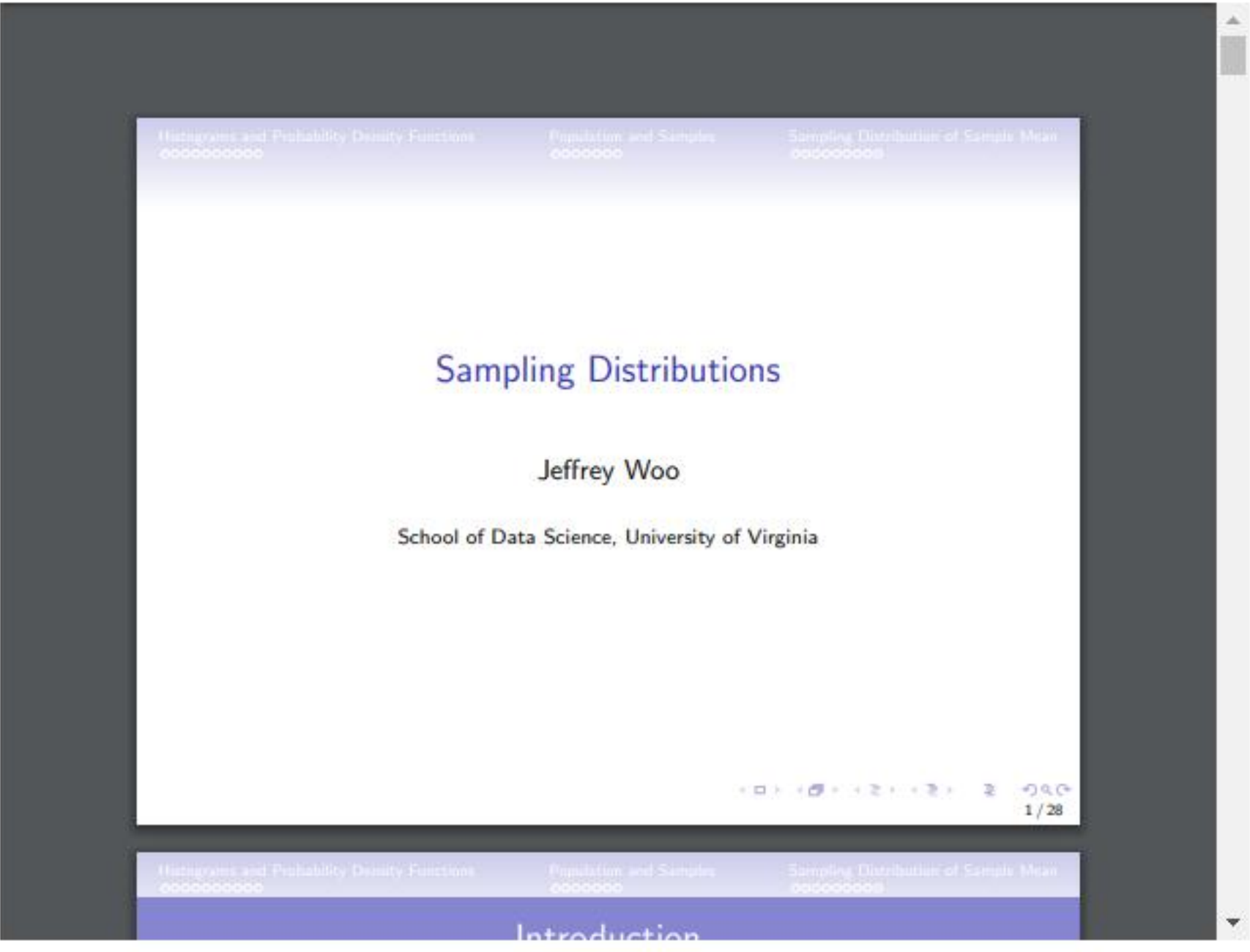


0.2: Sampling Distributions

[Print view](#) [Index of pages](#)

The slides for the video presentation on Sampling Distributions can be found below. Please download the slides and then follow along the accompanying videos further below this page. The video is split into three parts.



PART 1: HISTOGRAMS AND PROBABILITY DENSITY FUNCTIONS

Learning Objectives

- Know that a histogram is a graphical summary of quantitative data.
- Know how to read and interpret a histogram.
- Know how to describe the distribution of a histogram.
- Know how we can use the area under a histogram to estimate relevant proportions for our data.
- Know that a probability density function (pdf) is an approximation for the distribution of data.
- Know how to use the area under a pdf to estimate relevant proportions / probabilities for our data.
- Describe the general shape of the pdf of a normal distribution.
- Define the standard normal distribution.
- Know how any normal distribution can be standardized to a normal distribution.

Video for Part 1



PART 2: POPULATION AND SAMPLES

Learning Objectives

- Define population and sample.
- Given a study, identify the population of interest and the sample.
- Define parameter and statistic.
- Know that we use a statistic, which is a known value, to estimate an unknown parameter.
- Know that statistics vary from sample to sample, but a parameter is a fixed value.
- Define the sampling distribution of a sample statistic.
- Know that variance of the sampling distribution of a sample statistic generally decreases as sample size increases.

Video for Part 2



PART 3: SAMPLING DISTRIBUTION OF SAMPLE MEANS

Learning Objectives

- State the sampling distribution of the sample mean.
- Know the circumstances that result in the sampling distribution of the sample mean to follow a normal distribution.
- Know how to perform probability calculations associated with sample means when their sampling distribution can be approximated by a normal distribution.
- Know how to use R to obtain probabilities associated with a standard normal distribution.

Video for Part 3

