Estimating the mean using confidence intervals is a method that allows us to infer the range within which the true population mean is likely to fall, based on sample data. This approach accounts for sample variability and provides a way to express uncertainty. For instance, a 95% confidence interval means that if we were to take many samples and calculate the interval each time, approximately 95% of those intervals would contain the true population mean.

Normal Distribution Curve

— Normal Distribution
--- Mean (μ)