

The background features a dark blue gradient with a subtle pattern of white dots. Overlaid on this are several circular elements: a large scale on the left with numerical markings from 140 to 260, and several smaller circles with dashed lines and arrows, suggesting a process or cycle. The main title is centered in a large, white, sans-serif font.

SHINY APPS FOR INTRODUCTORY STATISTICS

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APP DEMOS: [HTTPS://GITHUB.COM/CLAZARSKI](https://github.com/CLAZARSKI)

shiny-dice

Shiny app teaching concepts of chi square distribution and power analysis

● R  1

shiny-appletrees

RShiny App investigating block experimental design

● R

shiny-clt

Shiny app teaching concepts and principles of the central limit theorem

● R  1

shiny-t-distribution

Shiny app introduction to the t-distribution

● R

DICE APP

- Learning objectives:
 - Use the law of large numbers to estimate a distribution
 - Conduct a goodness of fit test
 - Evaluate what effect sample size has on the outcome of the test
 - Develop an intuition for the power of a test

APPLETREES

- Learning Objectives:
 - To understand the structure of a completely randomized design versus block design
 - To understand qualities of a good blocking variable
 - To understand how blocking impacts variation in results

CENTRAL LIMIT THEOREM

- Learning objectives:
 - To understand the utility of the central limit theorem
 - To understand the relationship between the sampling distribution and the population distribution
 - To understand the relationship between the variance of the sampling distribution and the population distribution

T-DISTRIBUTION

- Learning objectives:
 - To compare the rate of rejection for a test when using the normal or t distributions
 - To understand how the t-distribution maintains a designated alpha level of rejection

RESOURCES

- Article for using the Dice app in a classroom
- <https://www.statisticsteacher.org/2021/04/12/hypothesis-testing-exploration/>