DAT301 Amy FIshencord Lab 3

<https://amyfishencord.shinyapps.io/lab3/>

This Shiny app provides an interactive interface to explore histograms and density distributions within the famous Iris dataset. It includes a visualization of histograms with overlaying density lines, allowing users to select different variables (such as sepal length or petal width) and apply density smoothing with adjustable parameters. The app is divided into two main tabs:

1. **Histogram with Density**: Displays a histogram for the selected variable, overlayed with a density line to illustrate data distribution. Users can control the number of bins in the histogram and adjust the density line’s bandwidth for smoothing. Users can also filter by species (Setosa, Versicolor, or Virginica).
2. **Data Preview**: Displays the first few rows of the dataset filtered by the selected species, providing users with a quick reference of the underlying data.

Additionally, the app includes a LaTeX-rendered formula of the normal distribution’s density function, enhancing the statistical context behind the density plot.