4.2.1 Interactive: PDF/CDF

This interactive shows the relationship between a probability density function (PDF) and the corresponding cumulative distribution function (CDF), and lets you explore several of the most important continuous distributions in statistics.

PDF/CDF - Directions for Use

1. Select a distribution from the drop-down menu: Uniform, Normal (Gaussian), Exponential, Log-Normal, or Cauchy. You can set different parameters for each distribution and press "Update" to show the new version.
2. You can then drag the blue shaded area to different regions on the PDF graph. The CDF graph will update to show how much of the total area is shaded. You can drag the edges of the PDF shading to expand or shrink the shaded area.

You should try:

- Test out every distribution.
- Play around with different parameters. Some of them have very dramatic effects, so change them slowly.

What You'll Notice:

- Sometimes the graph goes off the screen. Pressing "Rescale" will have the simulation attempt to fit the graph back on the screen automatically.
- The area shaded under the PDF graph, and the height differential on the CDF graph, are displayed above the two graphs. Their connection is not a coincidence.

Controls

Function: Uniform Parameters: a: 2 b: 4 Update Rescale

Show slider controls: