

Today: More on 2-D and 3-D Continuous Data

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Today: Defining Contour Plots and Heat Maps
Visualizing High-D Structure

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Goal: Estimate the joint distribution of X_1, X_2 :

Assuming X_1 and X_2 are independent:

Assuming X_1 and X_2 are dependent:

Contour Plots

Level Sets:

Contour Plots:

Heat Maps

Visualizing High-D Structure / Projections

What do we do when we have **many** continuous variables?

Projections: Sometimes we want to project the high dimensional data into a smaller subspace without losing “important structure”.

Multi-dimensional scaling: looks for a configuration in a k -dimensional subspace such that the distances between observations in the subspace best match the distances in the original p -dimensional space.