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Distributome—An Interactive Web-based Resource for Probability Distributions. Preliminary report.

A probability distribution is a mathematically rich object that includes a number of functions (density, distribution, quantile, generating, etc.) and parameters (mean, variance, other moments, median, etc.). In addition, probability distributions are related in myriad interesting ways (special cases, deterministic transformations, various types of limits, conditioning). Finally of course, probability distributions are of fundamental importance in many areas of pure and applied mathematics, and in partner disciplines in science and engineering.

The goal of the Distributome project is to display the rich structure of probability distributions in modern web-based formats. A particularly interesting feature of the project is a dynamic, interactive graph in which the nodes represent probability distributions and the edges represent relations between the distributions.

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