

Probability Distribution Zoo

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Distributions

Flipping Independent Biased Coins *Bernoulli Process*

Independent Events at Random Times *Special case of Poisson Process*

Independent Noisy Measurements *Special case of Gaussian Process*

Single Coin Flip

**Bernoulli
Distribution**

Does an Event
Happen?

**Bernoulli
Distribution**

Single Measurement

**Gaussian
Distribution**

Heads in Multiple
Flips

**Binomial
Distribution**

How Many Events
in Interval?

**Poisson
Distribution**

Sum of
Measurements

**Gaussian
Distribution**

Time to First Heads

**Geometric
Distribution**

Time to First Event

**Exponential
Distribution**

Sum of Squared
Measurements

**Chi-Squared
Distribution**
(Special Case of Gamma)

Continuous
Generalization

**Beta
Distribution**

Continuous
Generalization

**Gamma
Distribution**