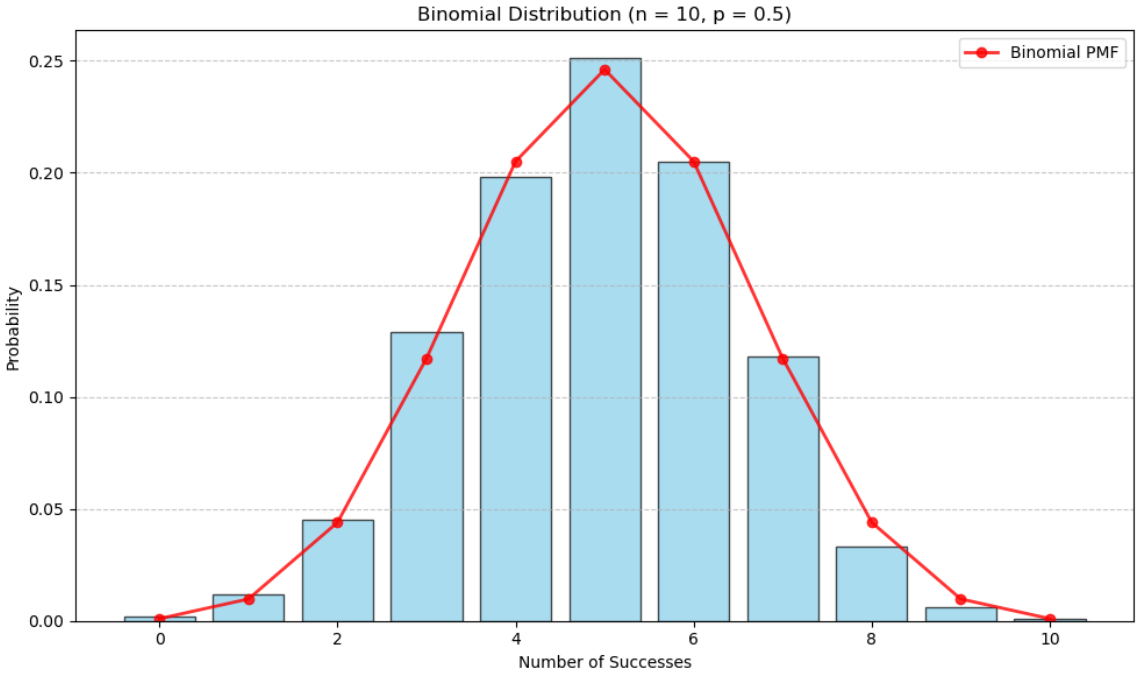
Distributions

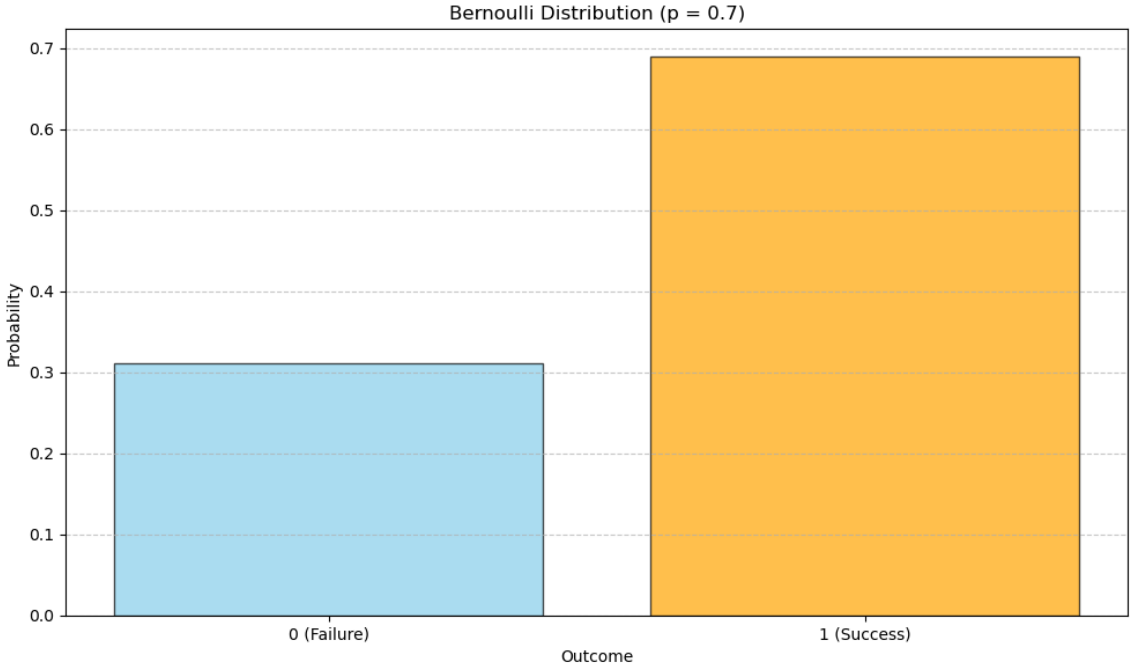
Binomial

- The **binomial distribution** describes the number of successes in a fixed number of trials for a binary outcome (like flipping a coin).



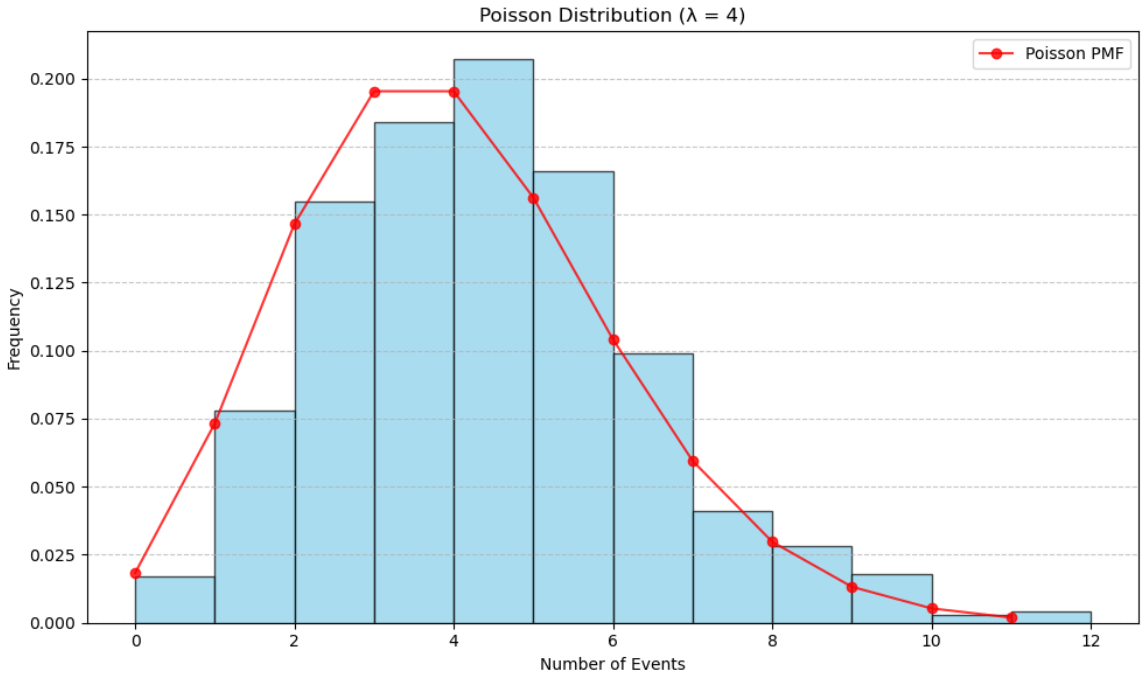
Bernoulli

- **Bernoulli Distribution** is used to model experiments with two possible outcomes: 0 or 1 (failure or success).



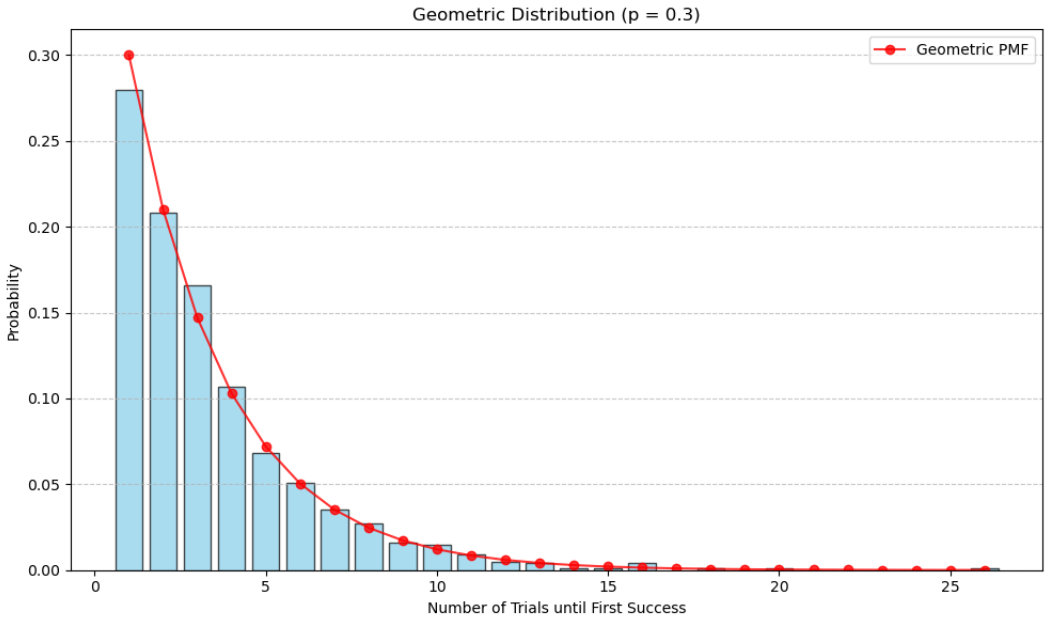
Poisson

- The **Poisson distribution** is used to model the number of times an event occurs in a fixed interval of time or space. It's characterized by the parameter λ (lambda), which represents the average number of occurrences in that interval



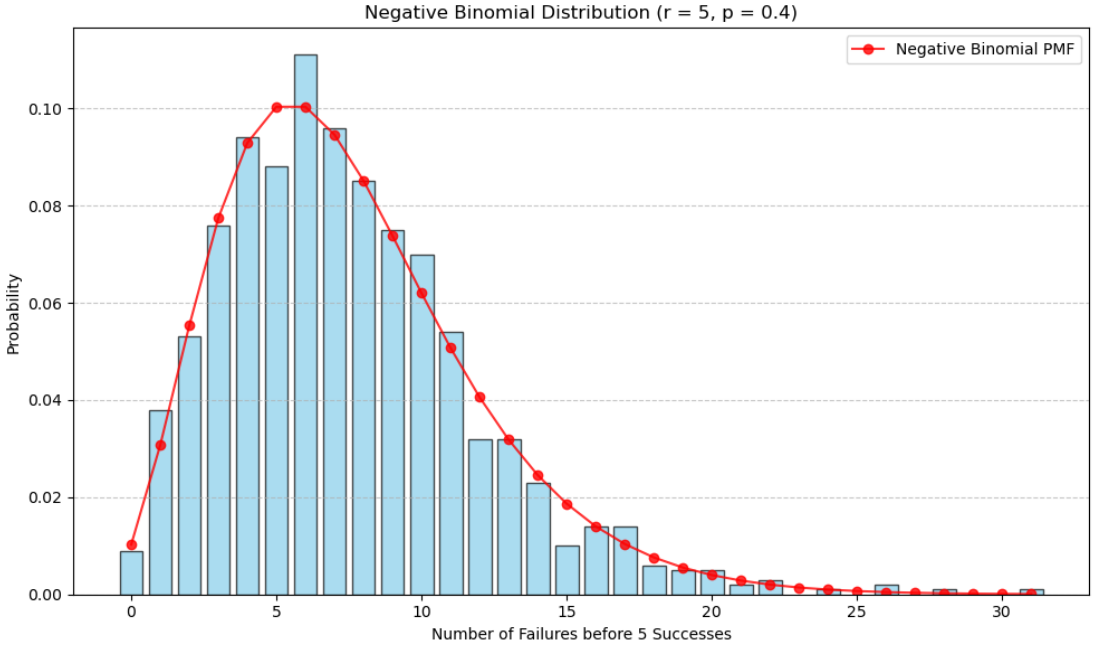
Geometric

- The **Geometric distribution** models the number of trials needed to get the first success in a series of independent Bernoulli trials (like flipping a coin repeatedly until it lands heads



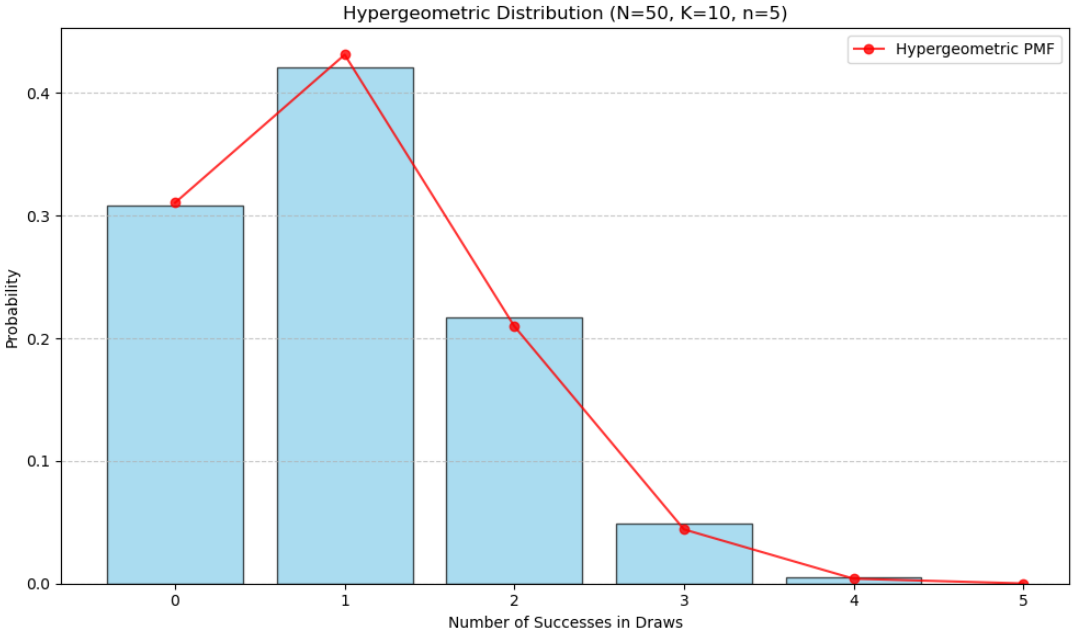
Negative Binomial

- The **Negative Binomial Distribution** is a discrete probability distribution that models the number of trials required to achieve a fixed number of successes in a series of independent and identical Bernoulli trials.



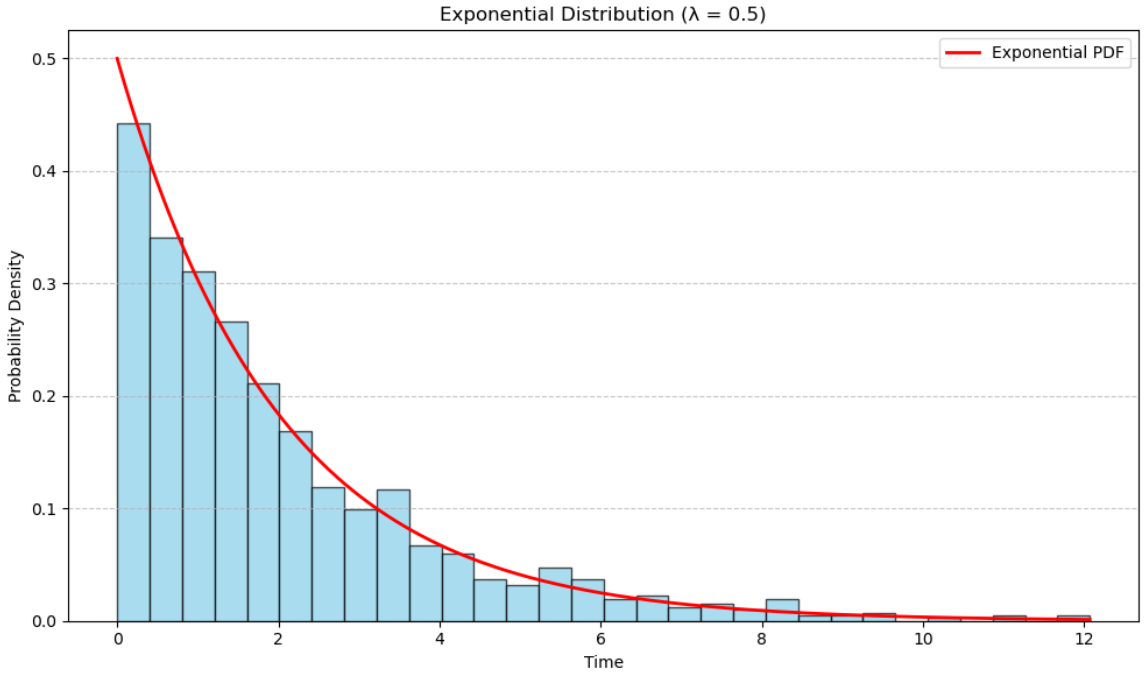
Hypergeometric

- The **Hypergeometric Distribution** is used to model scenarios involving draws without replacement from a finite population. It describes the probability of drawing a specific number of "successes" from a finite pool when the total population contains a certain number of "successes" and "failures."



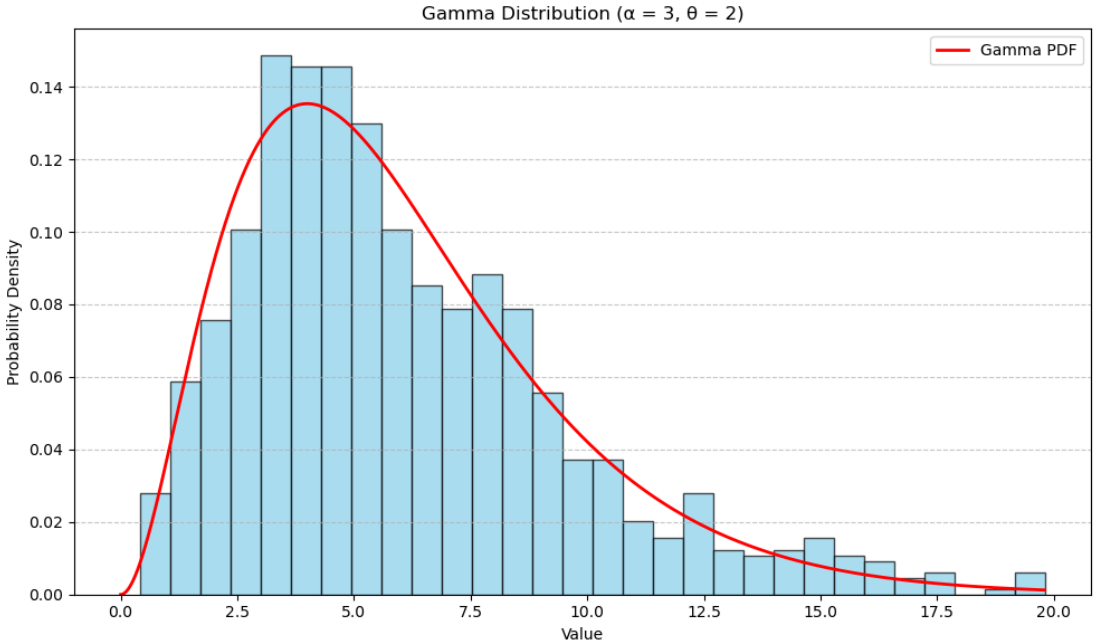
Exponential

- The **Exponential Distribution** is a continuous probability distribution that is often used to model the time between independent events that happen at a constant average rate. It is commonly used to represent lifetimes of objects, waiting times, or times between events such as arrivals at a service point.



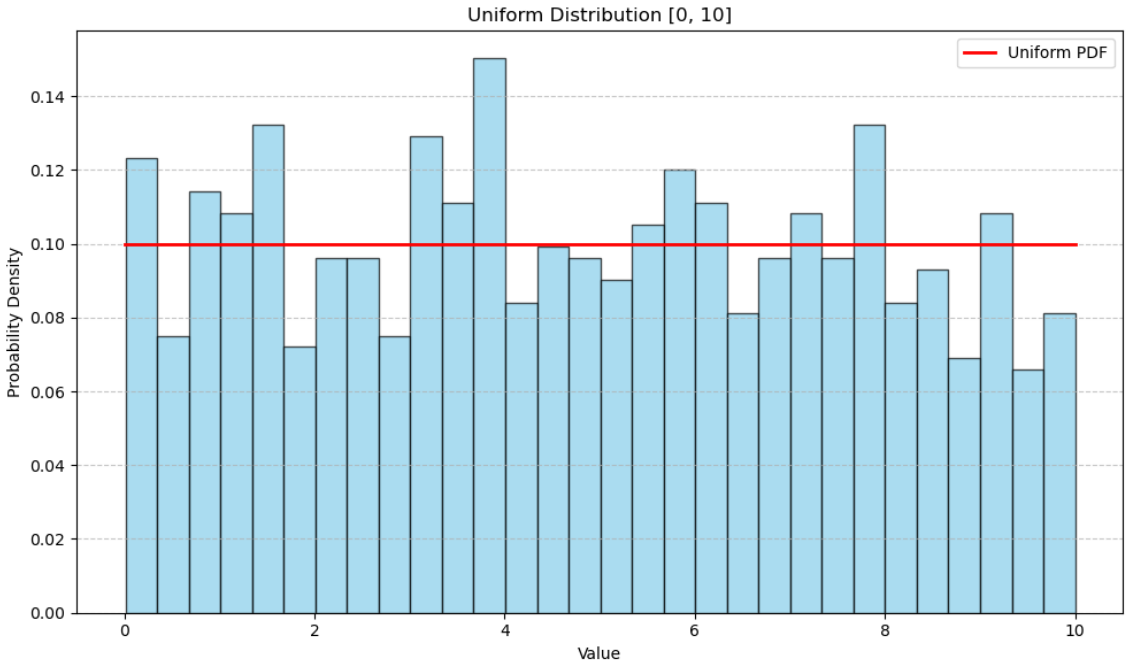
Gamma

- The **Gamma Distribution** is a continuous probability distribution commonly used in scenarios where we are modeling the time until multiple independent events occur. The Gamma distribution generalizes the **exponential distribution** and is used for modeling waiting times where we are interested in the time taken for multiple events to happen.



Uniform

- The **Uniform Distribution** is one of the simplest probability distributions, where all outcomes are equally likely



Normal

- The **Normal Distribution**, also known as the **Gaussian Distribution**, is one of the most widely used probability distributions in statistics and data analysis. It is characterized by its symmetrical, bell-shaped curve and is used to model a wide variety of natural phenomena.