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STATISTICAL METHODS FOR DECISION MAKING (Week 2)

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GROUND RULES

- Come prepared for these sessions by watching the video lectures.
  - Concepts will be covered in the videos.
  - Hands-On Application will be covered in Mentor Sessions.

- Submit all assignments on time.

- Let’s be punctual & respect each other’s time.

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DSBA CURRICULUM DESIGN

FOUNDATIONS

Python for Data Science

Statistical Methods for Decision Making(Week-2/5)

CORE COURSES

Advanced Statistics

Data Mining

Predictive Modelling

Machine Learning

Time Series Forecasting

Data Visualization

SQL

DOMAIN APPLICATIONS

Financial Risk Analytics

Marketing Retail Analytics

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LEARNING OBJECTIVE OF THIS MODULE

- Descriptive Statistics
- Inferential Statistics
- Hypothesis Testing

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LEARNING OBJECTIVES OF THIS SESSION - APPLICATION OF INFERENTIAL STATISTICS

- Probability
- Bayes' Theorem
- Various Probability Distributions

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TRY ANSWERING THE FOLLOWING

- If a dice is thrown twice, what is the probability of getting 6 in both throws

- What is the formula to find mean and standard deviation for Normal Distribution

- In case of Normal Distribution what percentage of data will lie in the range of $\mu \pm 2\sigma$?

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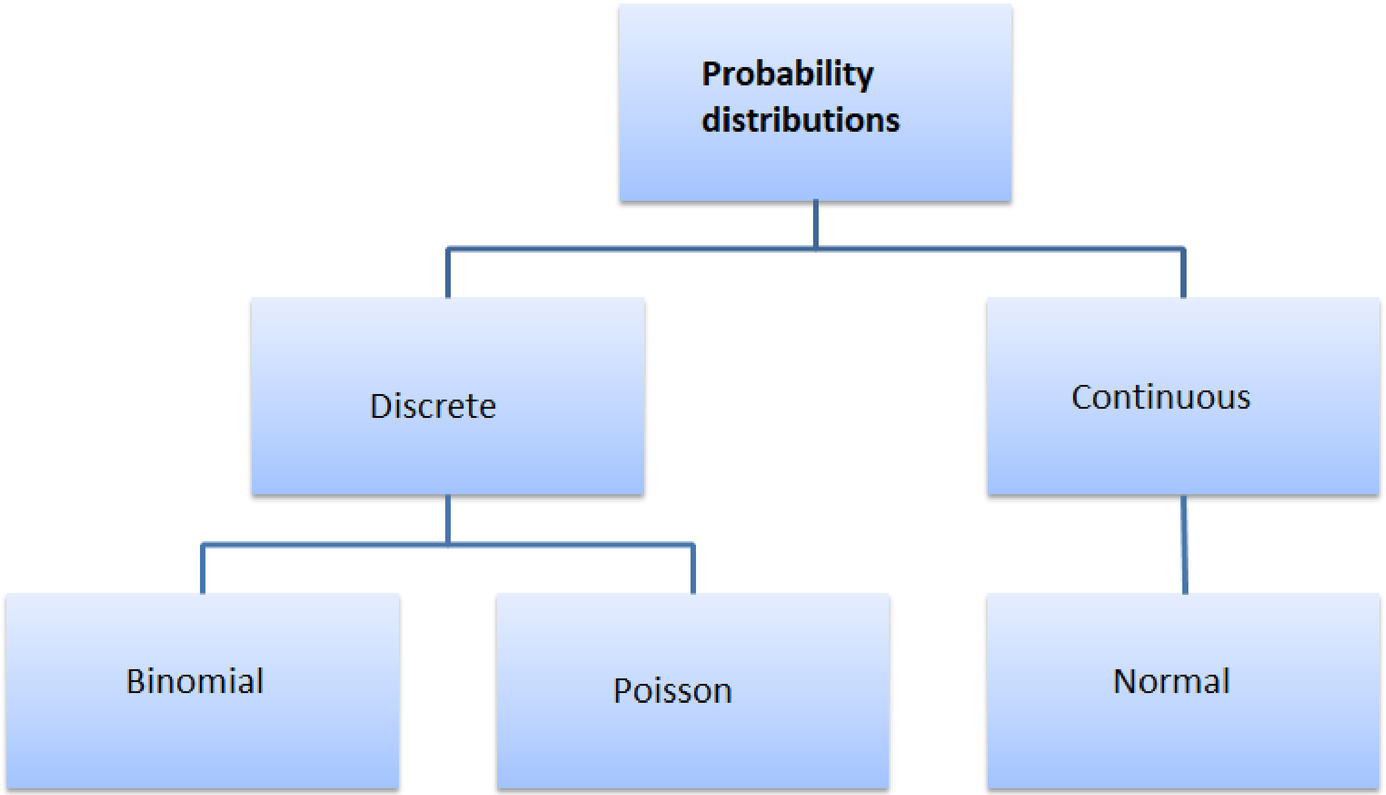
BROAD OVERVIEW

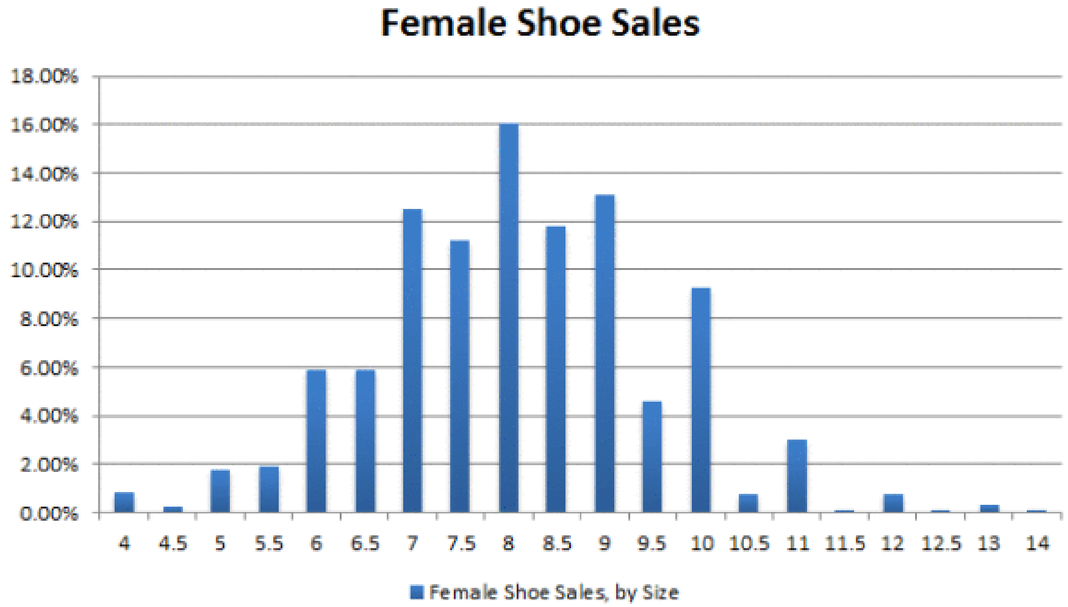
Various Probability Distributions



Real Life Example - Female Shoe Sales

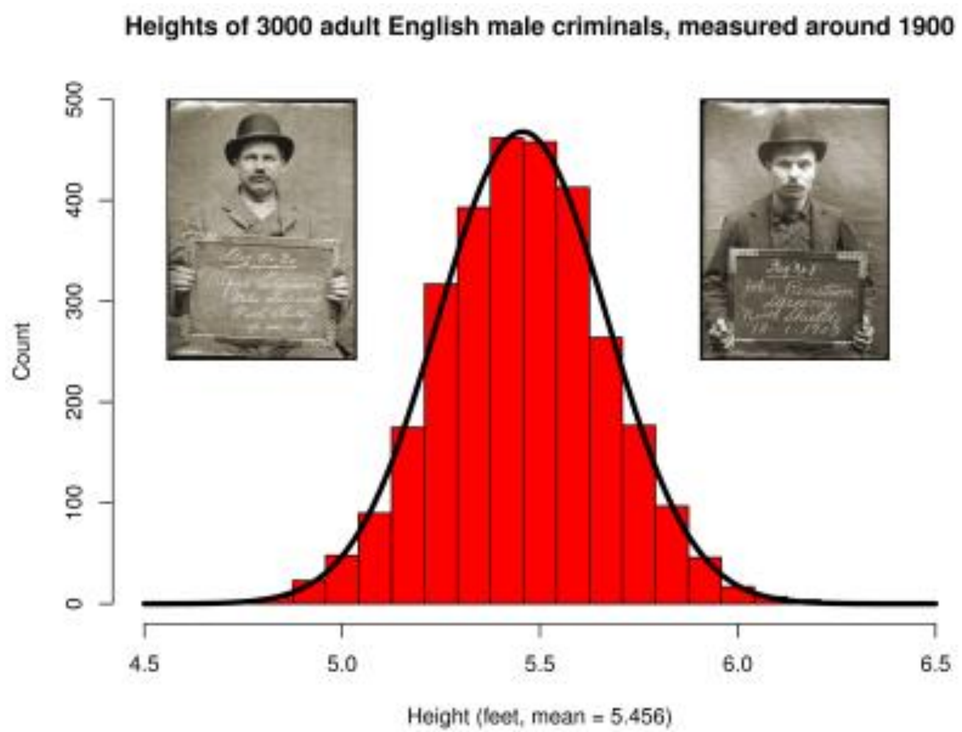
This data present on the right shows the distribution of Female Shoe Sales in USA in 1998.

It can be used by footwear companies to produce the footwears in similar proportions and hence minimize inventory and maximize profits.



https://thoughtburner.org/tag/normal-distribution/

School Shootings – Can Potential Shooter Profiles be Identified?



The use of statistics has long been important in the human sciences. An early example is an analysis by William Sealy Gosset (alias “Student”) of biometric data obtained by Scotland Yard around 1900. The heights of 3,000 male criminals fit a bell curve almost perfectly.

https://igorscience.org/category/research/

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CASE STUDIES

Probability

1) HR Employee Satisfaction
2) ATM Usage

Probability Distribution

1) Automobile Pollution
2) HR Appraisal
3) Labor Union Selection criteria
4) Average monthly cellphone bill
5) Campus Recruitment
6) ATM usage during night hours

Bayes Theorem

1) Computer Component scores

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BY THE ALUMs

I used to devote an hour a day from my busy schedule to watch videos and practice Hand-on almost everyday. This helped me make the best use of the mentored learning session because I could clarify my doubts after understanding the core concepts from the videos itself.

P. Venkatesh Iyer

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Company name here

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ANY QUESTIONS

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HAPPY LEARNING