SNS COLLEGE OF TECHNOLOGY

An Autonomous Institution

Accredited by NBA – AICTE and Accredited by NAAC – UGC with 'A' Grade

Approved by AICTE, New Delhi & Affiliated to Anna University, Chennai

Department of Computer Science and Engineering

Course Code & Title : 23ADO201 - Data Science Fundamentals

III YEAR / VI SEMESTER - EEE

Unit 1 - INTRODUCTION TO DATA SCIENCE

Topic :Need for Data science – Benefits and Uses

Mr.K.Karthikeyan AP /CSE

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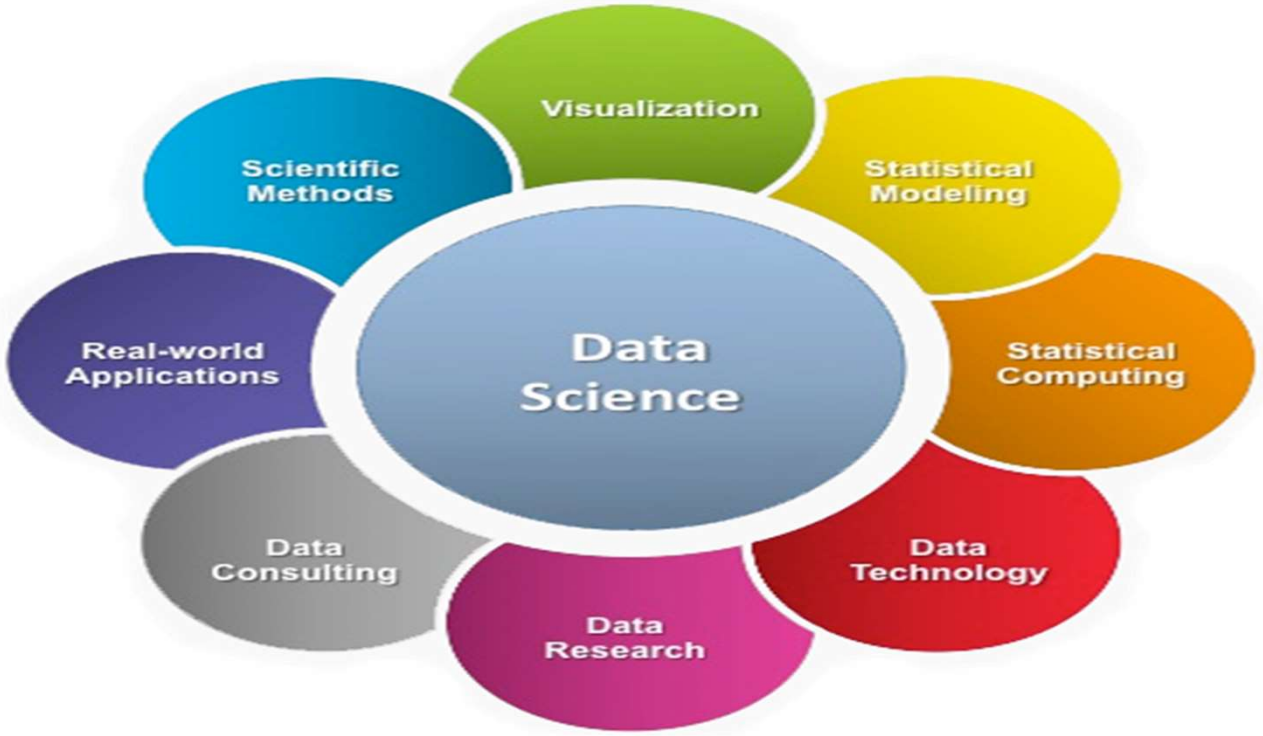
What is Data Science?



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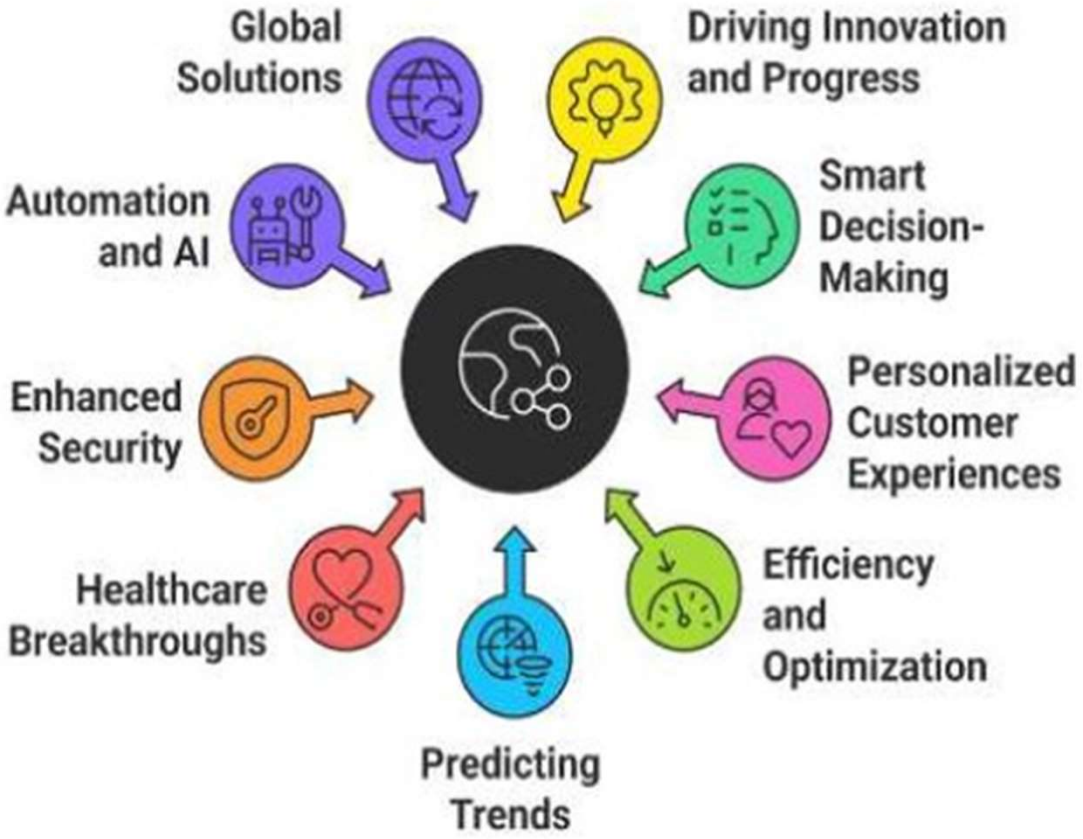
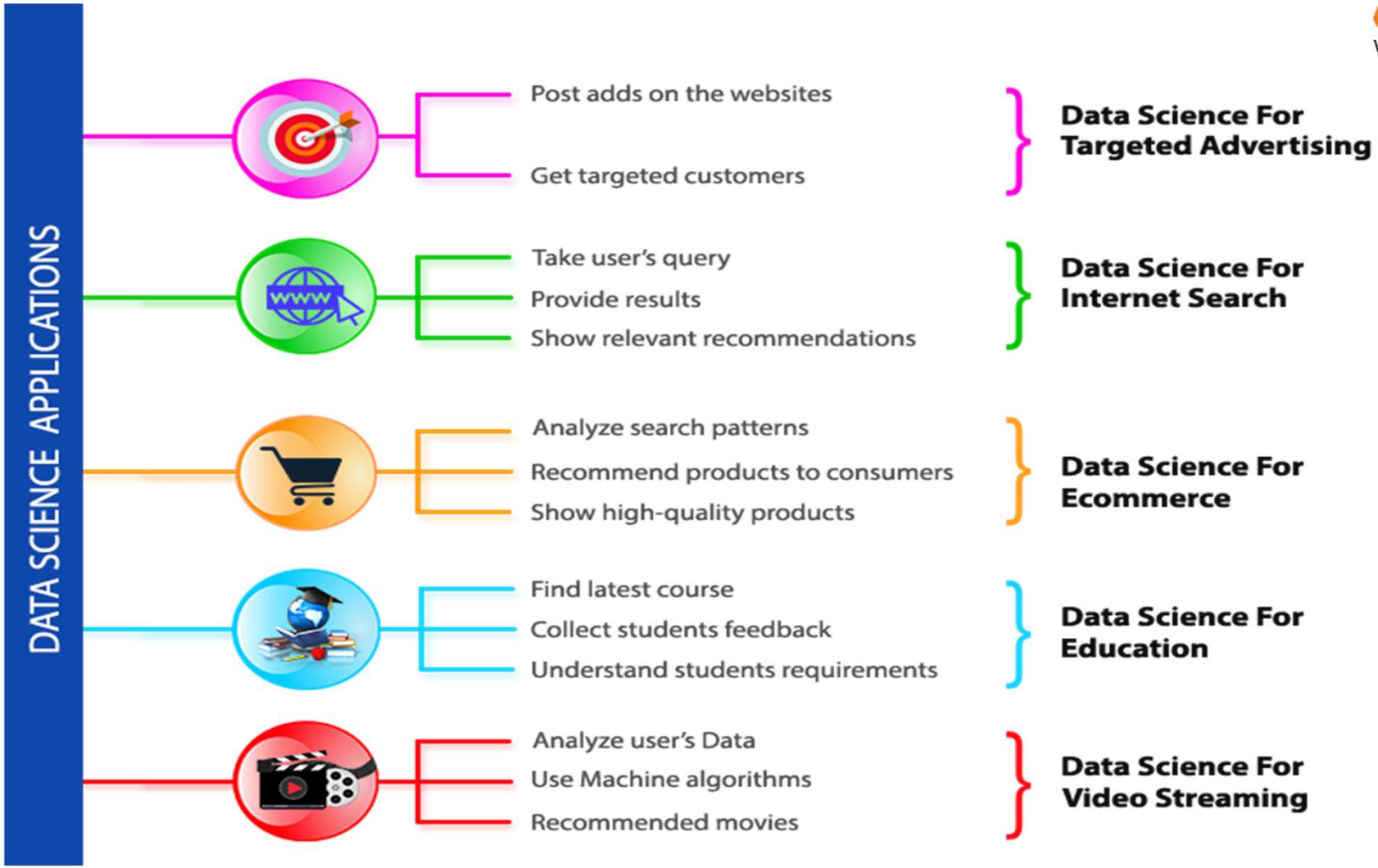
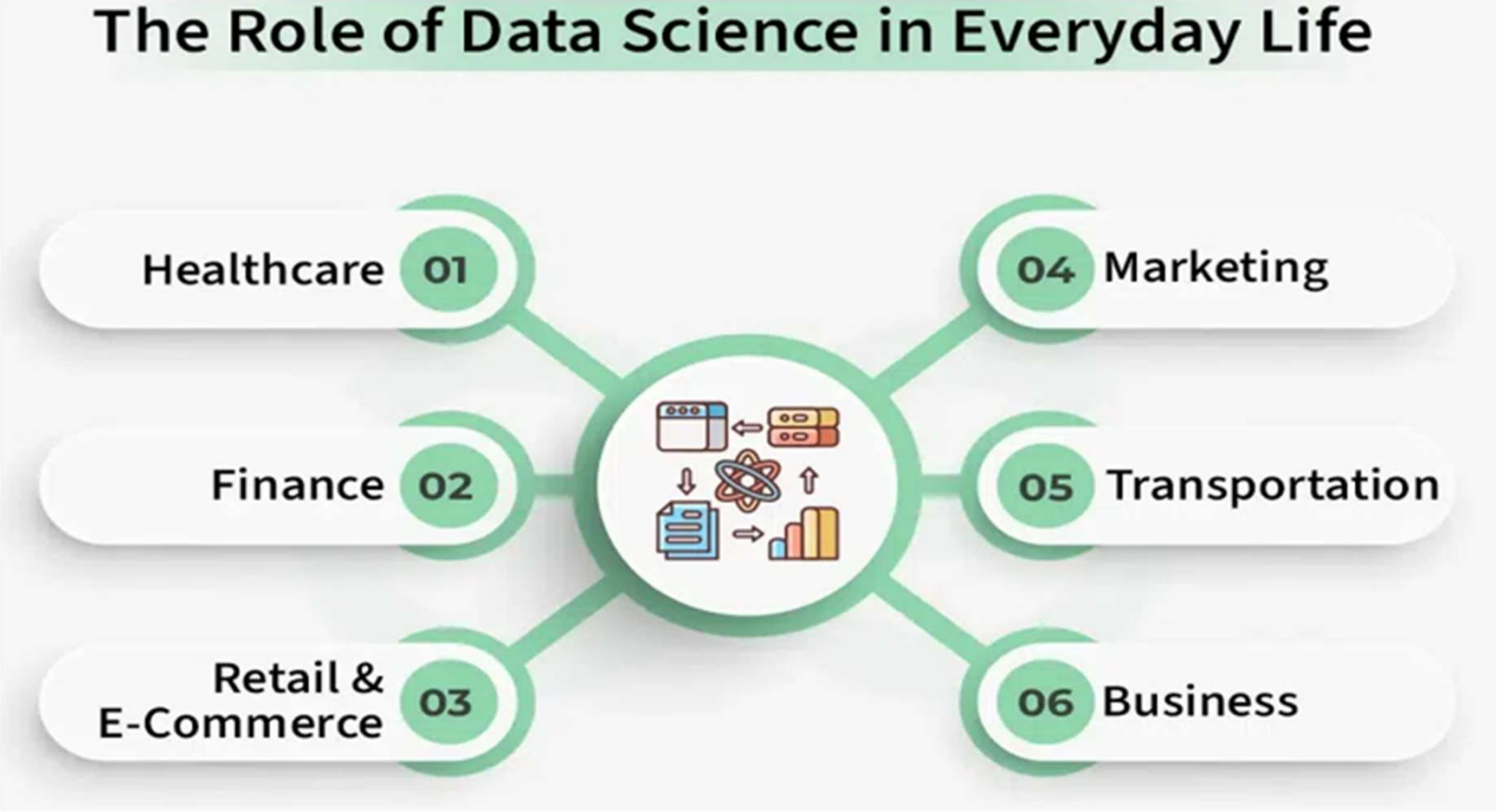
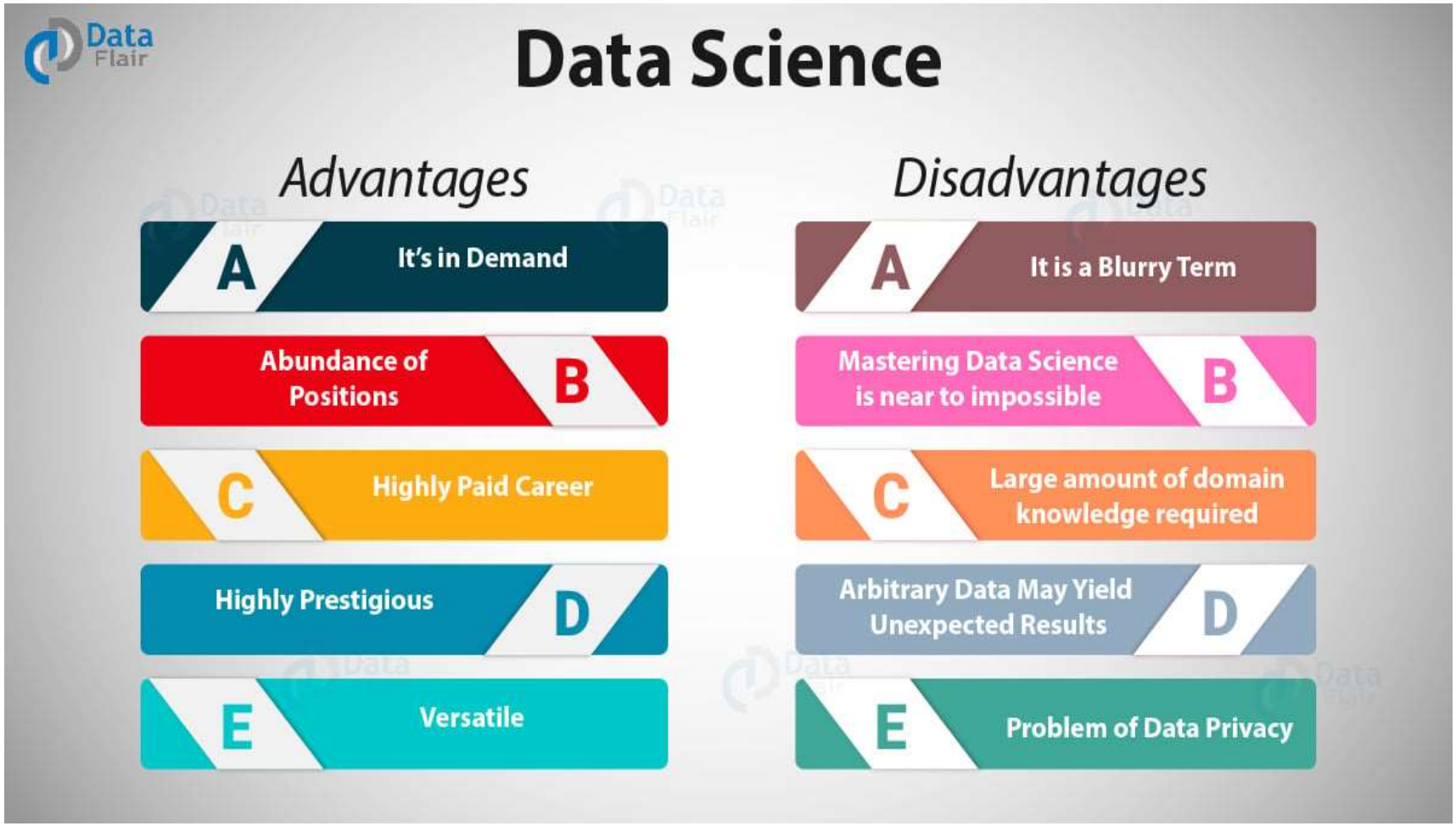
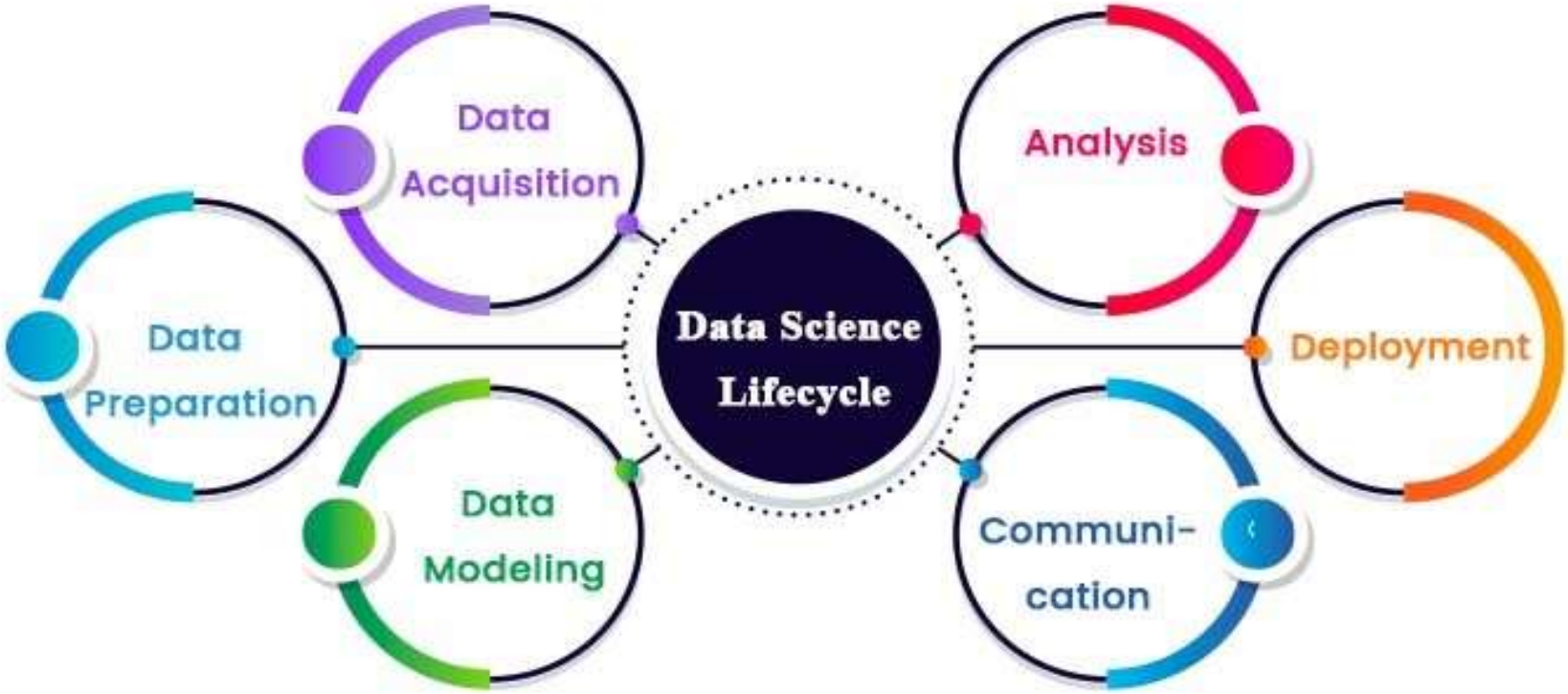
Why is Data Science Important



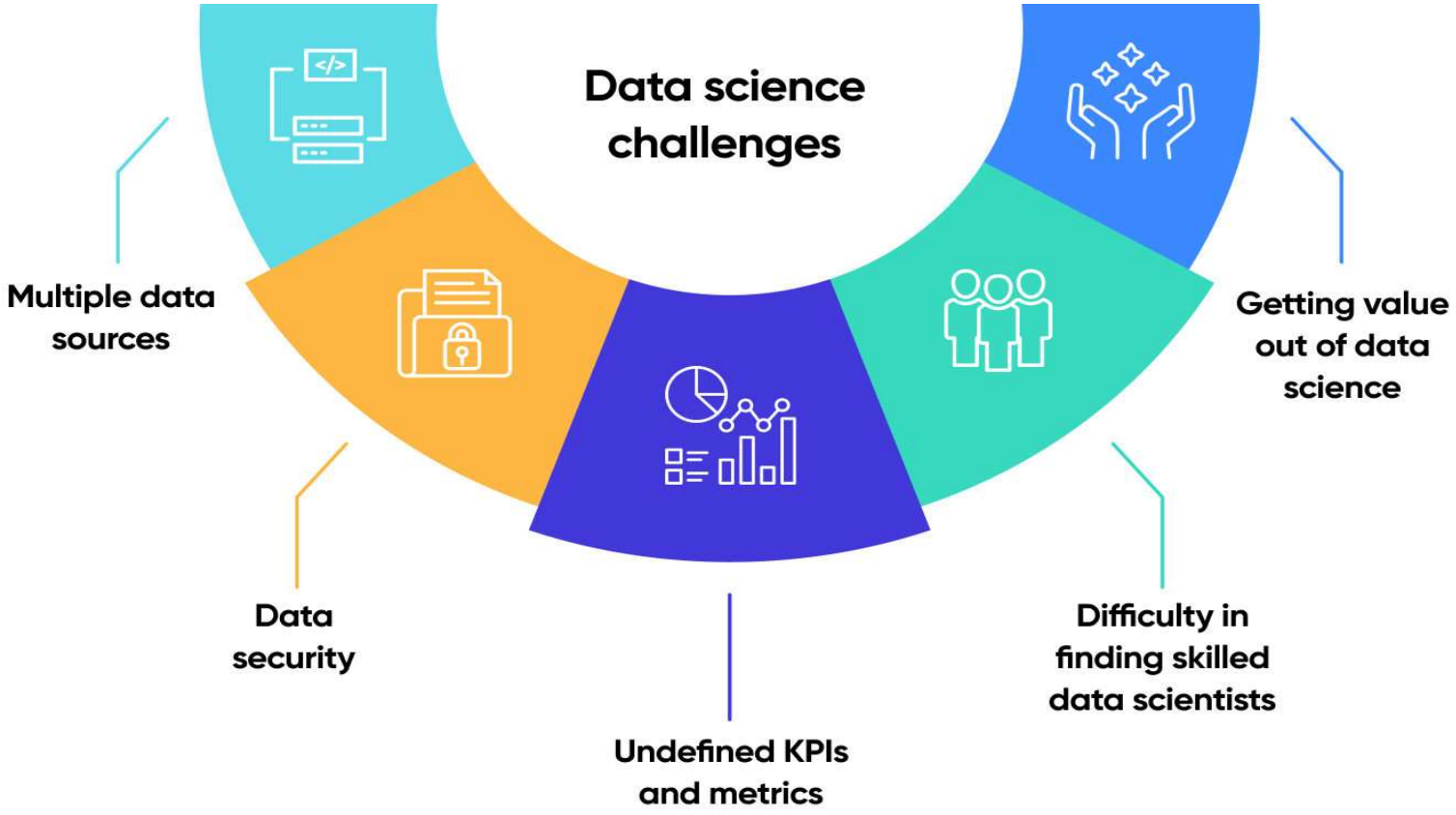

DATA SCIENCE APPLICATIONS
Post adds on the websites
Get targeted customers
Data Science For Targeted Advertising
Take user's query
Provide results
Show relevant recommendations
Data Science For Internet Search
Analyze search patterns
Recommend products to consumers
Show high-quality products
Data Science For Ecommerce
Find latest course
Collect students feedback
Understand students requirements
Data Science For Education
Analyze user's Data
Use Machine algorithms
Recommended movies
Data Science For Video Streaming


The Role of Data Science in Everyday Life
Healthcare 01
Finance 02
Retail & E-Commerce 03
04 Marketing
05 Transportation
06 Business


Data Flair
Data Science
Advantages
A
It's in Demand
Abundance of Positions
B
C
Highly Paid Career
Highly Prestigious
D
E
Versatile
Disadvantages
A
It is a Blurry Term
Mastering Data Science is near to impossible
B
C
Large amount of domain knowledge required
Arbitrary Data May Yield Unexpected Results
D
E
Problem of Data Privacy


Data Science Lifecycle
Data Acquisition
Data Preparation
Data Modeling
Analysis
Communi-cation
Deployment

Data science challenges



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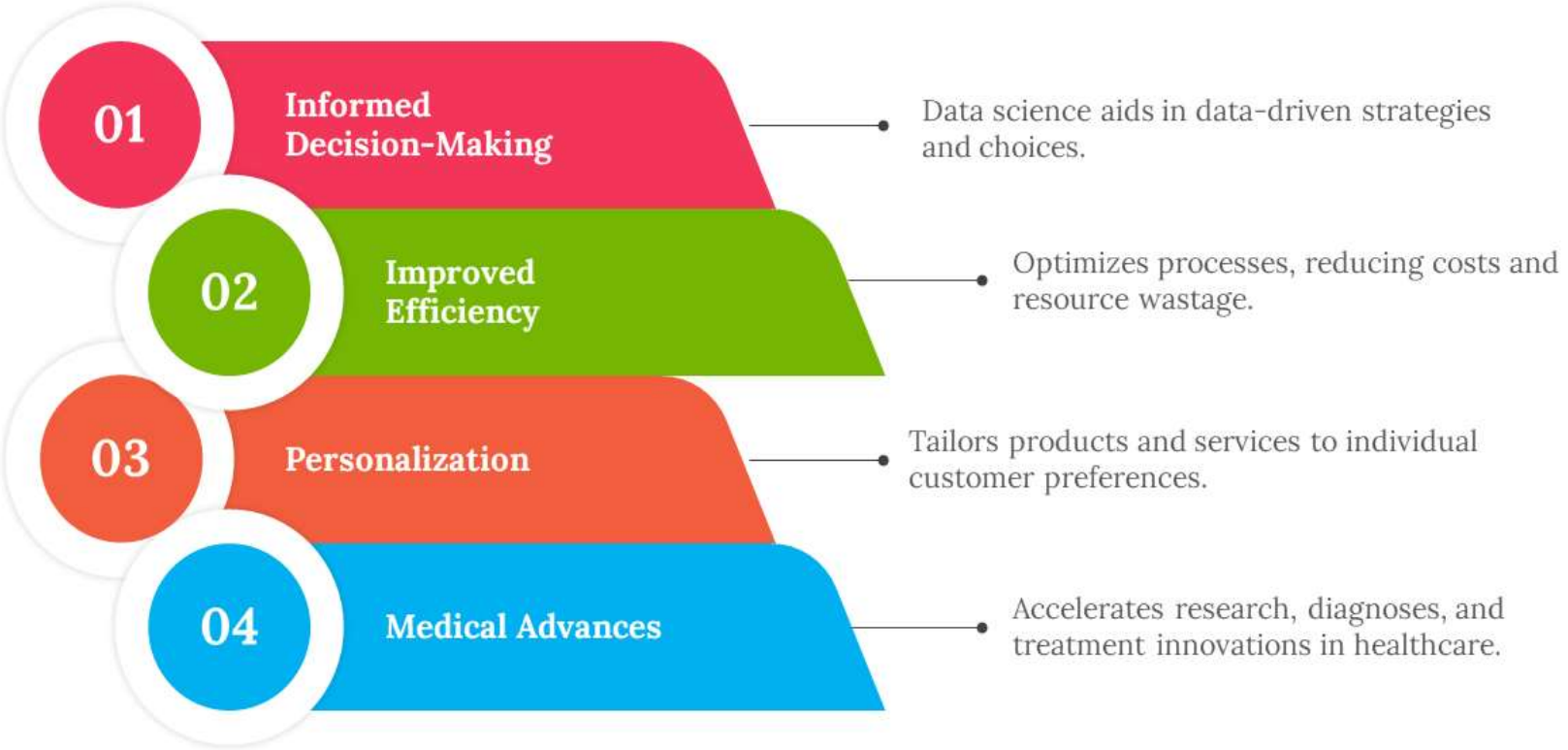
Benefits And Uses Of Data Science



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BENEFITS OF DATA SCIENCE

Benefits of Data Science for Business

🎯 Fun Activity: “Data Science to the Rescue!”

🕒 Duration

30–40 minutes

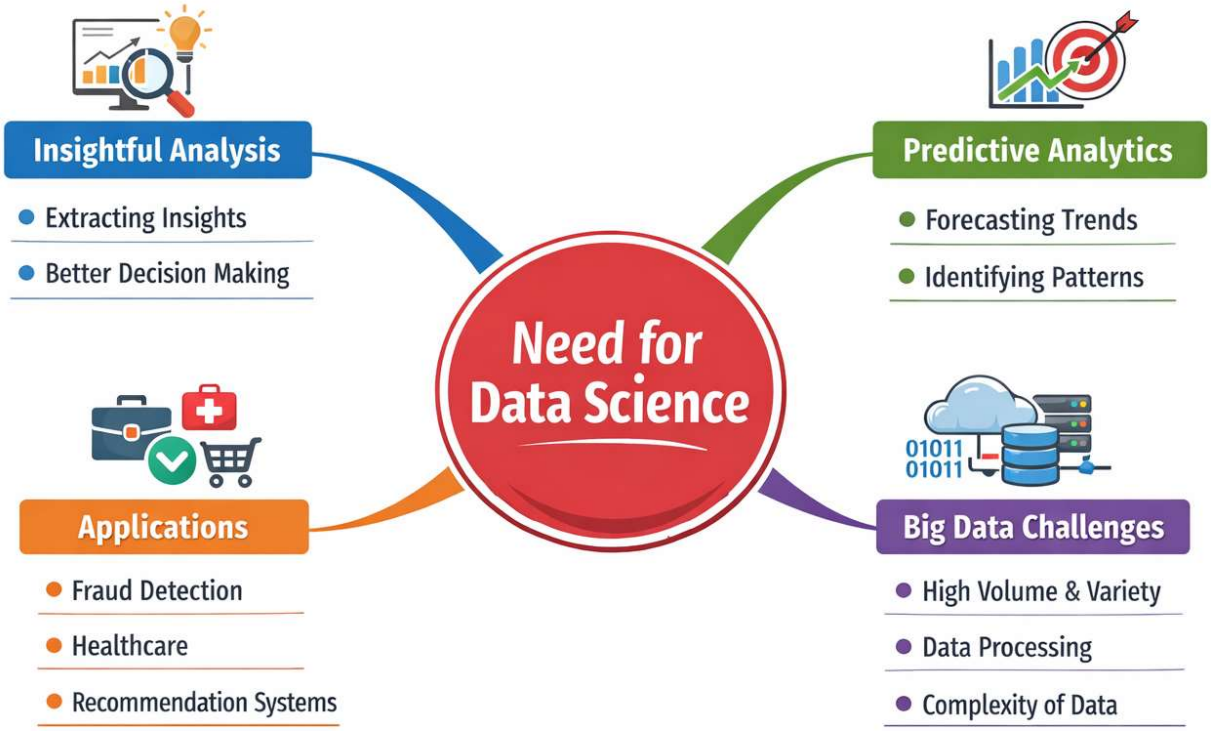
👥 Group Size

4–6 students per group

🧩 Activity Concept

Students act as Data Scientists solving real-world problems using data.
They discover why data science is needed, and clearly identify its benefits and applications.

MIND MAP


Need for Data Science
Insightful Analysis
Extracting Insights
Better Decision Making
Predictive Analytics
Forecasting Trends
Identifying Patterns
Applications
Fraud Detection
Healthcare
Recommendation Systems
Big Data Challenges
High Volume & Variety
Data Processing
Complexity of Data
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ASSESSMENT

MCQ — Need for Data Science

1. Why is data science important in modern organizations?

A. It replaces human decision-making entirely

B. It helps convert raw data into meaningful insights

C. It works only for large companies

D. It is used only in research labs

Answer: B

2. Which of the following BEST explains the role of data science?

A. Storing large amounts of data

B. Visualizing only historical trends

C. Finding patterns and predicting outcomes

D. Eliminating all errors in data

Answer: C

REFERENCE BOOKS

1.Allen B. Downey, “Think Stats: Exploratory Data Analysis in Python”, Green Tea Press, 2014.
2.Sanjeev J. Wagh, Manisha S. Bhende, Anuradha D. Thakare, “Fundamentals of Data Science”, CRC Press, 2022.
3.Chirag Shah, “A Hands-On Introduction to Data Science”, Cambridge University Press, 2020.
4.Vineet Raina, Srinath Krishnamurthy, “Building an Effective Data Science Practice: A Framework to Bootstrap and Manage a Successful Data Science Practice”, A press, 2021.

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