

# Lesson 1: Understanding Data Science

Data Science is an interdisciplinary field that combines statistics, programming, and domain expertise to extract insights from structured and unstructured data. It involves processes such as data collection, cleaning, analysis, visualization, and modeling using machine learning techniques.

Key Topics:

- What is Data Science?

Data Science is the study of data to uncover patterns, trends, and insights. It combines a variety of fields including mathematics, statistics, and computer science to derive knowledge from raw data.

- The Role of a Data Scientist:

A Data Scientist is responsible for collecting, analyzing, and interpreting large sets of data to help organizations make informed decisions. They use various tools and techniques to manipulate data, build predictive models, and present findings.

- Applications of Data Science in Different Industries:

Data Science is widely applied in healthcare (for disease prediction), finance (for fraud detection), e-commerce (for recommendation systems), and more. Its use helps improve operational efficiency, customer experiences, and business strategies.