

## **TASK-1**

### **Real-World Applications of Data Science**

#### **1. Healthcare & Medical Diagnosis**

Data science helps in predicting diseases, diagnosing medical conditions, and personalizing treatments using machine learning models trained on patient data. AI-powered tools like IBM Watson assist doctors in making accurate diagnoses.

#### **2. Fraud Detection in Finance**

Banks and financial institutions use data science to detect fraudulent transactions by analyzing patterns in customer behavior, identifying anomalies, and preventing unauthorized activities in real time.

#### **3. Recommendation Systems**

Streaming platforms (Netflix, Spotify) and e-commerce websites (Amazon, Flipkart) use data science to analyze user preferences and recommend relevant movies, music, or products, enhancing user experience.

#### **4. Autonomous Vehicles**

Self-driving cars (like Tesla's Autopilot) use data science for object detection, route optimization, and real-time decision-making using vast amounts of sensor and camera data.

#### **5 .Customer Sentiment Analysis**

Companies analyze social media, customer reviews, and feedback using Natural Language Processing (NLP) to understand consumer sentiment, improve services, and enhance brand reputation.