DataScience

In this course, you will learn how to represent data in different ways, build and use regression and classification models, and perform scientific and mathematical computing tasks. You will also learn how to build recommendation engines and model time series data, and how to use Tableau to analyze data and create interactive dashboards.

Overview

Data science is a field that uses statistics, machine learning, and computer science to extract insights from data. Data scientists collect, clean, analyze, and visualize data to make predictions and decisions. They use a variety of techniques, including machine learning algorithms, statistical analysis, and data visualization.

Objectives

- Build predictive models to forecast demand, predict customer behavior, and detect fraud.
- Optimize processes to save costs and boost productivity.
- Use data to create personalized recommendations, boosting sales and satisfaction.
- Detect fraud and manage risks, protecting businesses from losses and damage.
- Support data-driven decision-making, improving bottom lines and strategies.
- Automate tasks with ML/AI, freeing up resources for strategic work.
- Commit to continuous learning to stay ahead of the curve.
- Extract insights from data to make better decisions.

Prerequisites

- 1. Strong foundation in mathematics and statistics
- 2. Proficiency in programming languages like Python or R
- 3. Knowledge of data manipulation and analysis techniques
- 6. Domain knowledge in the relevant area of application
- 7. Strong critical thinking and problem-solving skills
- 5. Ability to create effective data visualizations
- 4. Understanding of machine learning principles and algorithms
- 8. Commitment to continuous learning and staying updated

Skills Covered

- Mathematics and Statistics
- Programming (Python, R)
- Data Manipulation and Analysis
- Machine Learning Algorithms

- Data Visualization
- SQL and Databases
- Big Data Technologies
- Communication and Presentation
- Problem-Solving
- Domain Knowledge
- Continuous Learning

Audience

- Mathematics and Statistics
- Programming (Python, R)
- Data Manipulation and Analysis
- Machine Learning Algorithms
- Data Visualization
- SQL and Databases
- Big Data Technologies
- Communication and Presentation
- Problem-Solving
- Domain Knowledge
- Continuous Learning

Key Features

- Data Collection from various sources
- Data Cleaning and Preprocessing
- Exploratory Data Analysis (EDA)
- Statistical Analysis
- Machine Learning Algorithms
- Feature Engineering
- Model Development and Evaluation
- Data Visualization
- Deployment and Integration into production systems
- Ethical considerations in data handling
- Continuous Learning and staying updated

Resources

- Communities and Forums

Benefits

- Data-Driven Insights for informed decision-making
- Improved Accuracy and Efficiency in predictions and forecasting
- Enhanced Product and Service Personalization
- Cost Reduction through process optimization and efficiency gains

- Fraud Detection and Risk Mitigation
- Competitive Advantage through data-driven strategies
- Improved Customer Experience and Satisfaction

Curriculum

Python for Data Science

1. Kickstart your Python for Data Science learning with bSkilling. Tastefully crafted course familiarizes you with programming.

Applied Data Science with Python

1. Learn Python for data science and unlock your career as a data scientist. This course covers data wrangling, mathematical computing, and more.

Machine Learning

1. Master Machine Learning concepts and get certified with our online course. Learn from experts and build hands-on projects.

Tableau Training

1. Master Tableau Desktop and analyze data effectively with our Tableau certification course.

Data Science Capstone

1. Data Science Capstone project: Solve real-world problems, show expertise to employers.

Outcomes

- Data science provides actionable insights for better decision-making.
- Data science enhances customer experience with personalization, fraud detection, and risk mitigation.
- Data science can help businesses make better decisions by providing them with insights from data.
- Data science can be used to innovate by identifying new opportunities and making new discoveries.
- Data science can be used to improve operational efficiency by identifying inefficiencies and finding ways to improve them.
- Data science gives businesses a competitive edge with insights, models, and optimized processes.
- Data science optimizes processes for cost savings and productivity gains.

- Data science personalizes recommendations for customers, boosting sales and satisfaction.
- Data science builds predictive models for future outcomes, such as demand, behavior, and fraud.
- Data science mitigates risk, protecting businesses from financial losses and reputational damage.

Certification

Completion of course provides necessary knowledge to become an Data Scientist. Once you successfully complete the DataScience course, bSkilling will provide you with an industry-recognized course completion certificate which will have a lifelong validity.

Faqs

What is the difference between data science and machine learning?

- Data science is a broader field that encompasses various techniques, including machine learning. Data science involves the entire process of collecting, cleaning, analyzing, and interpreting data, whereas machine learning specifically focuses on algorithms that enable computers to learn from data and make predictions or decisions.

What is data science?

- Data science is a multidisciplinary field that involves extracting insights and knowledge from data through statistical analysis, machine learning, and other analytical techniques. It aims to uncover patterns, make predictions, and drive informed decision-making.

What skills are required to become a data scientist?

- Data scientists require a combination of skills, including proficiency in programming (Python, R), mathematics and statistics, data manipulation and analysis, machine learning, data visualization, and strong problem-solving and communication skills.

What industries use data science?

- Data science is used in various industries, including finance, healthcare, marketing, retail, telecommunications, and transportation. It has applications in areas such as customer analytics, fraud detection, demand forecasting, personalized recommendations, and process optimization.

How does data science handle big data?

- Data science utilizes big data technologies such as Hadoop and Spark to handle large volumes of data. These technologies enable distributed processing and storage of data across multiple nodes, allowing for efficient analysis and modeling of big data.

What are the ethical considerations in data science?

- Ethical considerations in data science include privacy protection, ensuring data security, avoiding biases in algorithms, and maintaining transparency and fairness in decision-making. Data scientists need to handle data responsibly and ensure the ethical use of data.

What is the typical data science process?

- The typical data science process involves understanding the problem, collecting and preprocessing data, performing exploratory data analysis, building and evaluating models, and communicating the findings. It is an iterative process that involves refining and improving models based on feedback and insights.

How can I learn data science?

- There are various resources available to learn data science, including online courses, tutorials, books, and hands-on projects. Platforms such as Coursera, edX, and DataCamp offer data science courses, and there are numerous online communities, blogs, and forums dedicated to data science learning and discussion.