



**Ed-Tech**  
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# DATA SCIENCE AND ANALYTICS

Training - 5 Days



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Transforming education  
through technology

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# Data Science & Analytics

## Curriculum Index

1. Python Programming and Logic Building
2. Data Structure & Algorithms
3. Pandas Numpy Matplotlib
4. Statistics
5. Machine Learning
6. Natural Language Processing
7. Computer Vision
8. Data Visualization with Tableau
9. Structure Query Language (SQL)
10. Big Data and PySpark

## TECHNOLOGY STACK:

- Python
- Data Structures
- NumPy
- Pandas
- Matplotlib
- Natural Language
- Toolkit ( NLTK )
- PyTorch
- OpenCV
- Tableau
- Structure Query Language ( SQL )
- Major Project
- Git and GitHub

## \* Python Programming & Logic Building

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- Basics
- Control Statements
- Lists
- Strings
- For Loops
- Functions
- Dictionaries
- Tuples
- Sets
- File Handling
- Exception Handling
- Object-Oriented Programming
- Regular Expression
- Modules & Packages
- Magic Methods

## \* Data Structure & Algorithms

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- Analysis of Algorithms
- Types of analysis
- Asymptotic Notations
- Recursion and Backtracking
- Stack
- Queue
- Trees
- Linked Lists
- Sorting
- Searching

## \* Pandas Numpy Matplotlib

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- Numpy
- Pandas
- Matplotlib

## \* Statistics

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- Descriptive Statistics
- Probability Distribution
- Hypothesis Testing
- Regression Analysis
- ANOVA
- Inferential Statistics

## \* Machine Learning

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- Linear Regression
- Logistic Regression
- Decision Tree
- Random Forest
- Naive Bayes
- Understanding Interview questions
- Support Vector Machines
- Machine Learning Advanced Concepts
- Clustering
- Recommendation Systems

## \* Natural Language Processing

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- Text Analytics
- Speech Recognition

## \* Computer Vision with PyTorch

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- Neural Networks
- Convolutional Neural Networks
- Image Content Analysis
- Biometric Face Recognition
- Integration with Web Apps
- Deployment
- Extra Projects

## \* Data Visualization with Tableau

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- Tableau
- Dashboards

## \* Structure Query Language (SQL)

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- Setup SQL server
  - Select
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# What is Data Science & Analytics

Data science is the study of data to extract meaningful insights for business. It is a multidisciplinary approach that combines principles and practices from the fields of mathematics, statistics, artificial intelligence, machine learning, and computer engineering to analyze large amounts of data.

Data science is the domain of study that deals with vast volumes of data using modern tools and techniques to find unseen patterns, derive meaningful information, and make business.

## Roles of a Data scientist?

Data scientists examine which questions need answering and where to find the related data.

Businesses use data scientists to source, manage, and analyze large amounts of unstructured data.

Data scientist deals with vast volumes of data using modern tools and techniques to find unseen patterns, derive meaningful information.

For example, finance companies can use a customer's banking and bill-paying history to assess creditworthiness and loan risk.

## JOB OPPORTUNITIES

- \* **Machine Learning Engineer.**
- \* **Machine Learning Scientist.**
- \* **Applications Architect.**
- \* **Data Architect.**
- \* **Enterprise Architect.**
- \* **Infrastructure Architect.**
- \* **Statistician.**
- \* **Business Intelligence Analyst**



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