



By

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MS Computer Science, IIT

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Who should go for this course?

- Fresher's/Graduates
- Job Seekers
- Managers
- Data analysts
- Business analysts
- Operators
- End users
- Developers
- IT professionals

DATA SCIENCE

(I) Introduction to Data Science and Python

1. Python Basics with Anaconda
2. Files and Loops
3. Booleans and If Statements
4. Files loops and Condition Logics with Application Example
5. List Operations, Dictionaries
6. Introduction to Functions
7. Debugging Errors
8. **Project:** Exploring US Date Births
9. Modules, Classes
10. Error Handling
11. List Comprehensions
12. **Project:** Modules, Classes, Error Handling, List Comprehensions by Using NFL Suspension Data

13. Variable Scopes
14. Regular Expressions
15. Dates in Python
16. **Project:** Exploring Gun Deaths in US

(II) Data Analysis and Visualization

1. Getting Started with Numpy
2. Computation with Numpy
3. Introduction to Pandas
4. Data Manipulation with Pandas
5. Working with Missing Data
6. **Project:** Summarizing Data
7. Pandas Interval Series
8. Data Frames in Pandas
9. **Project:** Analyzing Thanks Giving Dinner
10. **Project:** Finding Patterns in Crime

Exploratory Data Visualization

11. Line Charts
12. Multiple Plots
13. Bar Plots and Scatter Plots
14. Histograms and Box Plots

15. **Project:** Visualizing Earnings based on college Majors

Story Telling Through Visualization

16. Improving Plot Aesthetics

17. Color Layout and Annotations

18. **Project:** Visualizing Gender Gaps in Colleges

19. Conditional Plots

20. **Project:** Visualizing Geographical Data

(III) Data Cleaning

1. Data Cleaning Walkthrough

2. Data Cleaning Walkthrough Combining the data

3. Analyzing and Visualizing the Data

4. **Project:** Analyzing NYC High School Data

5. **Project:** Star Wars Survey

(IV) Working with Data Sources

1. APIS and Web Scrapping

(I) Working with APIS

(II) Intermediate APIS

(III) Working with REDDIT API

(IV) Web Scrapping

2. SQL Fundamentals

(I) Introduction to SQL

(II) Summary Statistics

(III) Group Summary Statistics

(IV) Querying SQLITE from Python

(V) **Project: Analyzing CIA Facebook Data Using SQLITE and Python**

3. SQL Intermediate

(I) Modifying Data

(II) Table Schemas

(III) Database Normalization and Relations

(IV) Postgre SQL and Installation

4. Advanced SQL

(i) Indexing and Multicolumn Indexing

(ii) **Project: Analyzing Basketball data**

(V) Statistics and Probability

1. Introduction to Statistics

2. Standard Deviation and Correlation

3. Linear Regression

4. Distributions and Sampling

5. Project: Analyzing Movie Reviews

6. Introduction to Probability

7. Calculating Probabilities

8. Probability Distributions

9. Significance Testing

10. Chi Squared Test

11. Multi Category Chi Squared Test

12. **Project:** Wining Jeopardy

(VI) Machine Learning

1. Machine Learning Fundamentals
2. Introduction to KNN
3. Evaluating Model Performances
4. Multivariate KNN
5. Hyper Parameter Optimization
6. Cross Validation
7. **Project: Predicting Car Prices**
8. Calculus for Machine Learning
9. Understanding Extreme points, limits and Linear & Nonlinear Functions
10. Linear Algebra (Linear Systems, Matrices, vectors, Solution Sets)
11. Linear Regression Model
12. Feature Selection
13. Gradient Descent
14. Ordinary Least Squares

15. Processing and Transforming Features
16. **Project. Predicting House sales Prices**
17. Logistic Regression
18. Evaluating Binary Classifiers
19. Multiclass Classification
20. Intermediate Linear Regression
21. Overfitting
22. Clustering Basics
23. K-Means Clustering
24. Gradient Descent
25. Introduction to Neural Networks
26. **Project.** Predicting the Stock Market
27. Introduction to Decision Trees
28. Building, Applying Decision Trees
29. Introduction to Random Forest
30. **Project.** Predicting Bike Rentals

Machine Learning Projects

- 1. Data Cleaning**
- 2. Preparing Features**
- 3. Making Predictions**
- 4. Sentiment Analysis**

(VII) Spark and Map Reduce

1. Introduction to Spark
2. Spark integration with Jupyter
3. Transformations and Actions
4. Spark Data Frames
5. Spark SQL

(VIII) Building a Capstone Project

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Telugu demo Video: <https://youtu.be/bM58Js0m-2A>

Data Science

Introduction to Statistics

- > Descriptive Statistics
- > Inferential Statistics

Machine Learning

- Supervised Learning Algorithms
- Unsupervised Learning Algorithm
(All Algorithms Includes Examples)
- ML Project

Python

- Introduction
- Data Manipulation
- Text Mining
- Data Visualization
- Exploratory DV Technique
- Data Structures and Algos
- Probability distribution
- Data Cleaning
- Story Telling Through Visualization

Working with Data Sources

API s Web Scraping
SQL Fundamentals
SQL DB Intermediate
SQL DB Advanced

SPARK & Map reduce

- Introduction To Spark
- Spark Installation And Jupyter Notebook Integration
- Transformations And Actions
- Transforming Hamlet Into A Data Set
- Spark Data Frames
- Spark SQL

Capstone Project

- [1 DATA SCIENCE ONLINE TRAINING](#)
- [2 DATA SCIENTIST](#)

- [3 WHAT A DATA SCIENTIST DOES](#)
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