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At EDUCBA, it is a matter of pride to us to make job oriented hands on courses available to anyone, any time and anywhere.

Learn at a time and place, and pace that is of your choice.

Plan your study to suit your convenience and schedule.

# Data Science with Python Course

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Email Contact: [info@educba.com](mailto:info@educba.com)



# EDUCBA

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[www.educba.com](http://www.educba.com)

# Course Overview

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In this Course you get to learn:

- It is an amazing collection of practical and hands-on learning of the most updated training programs and projects in the area of Data Science using Python programming language.
- We shall cover Data Science with Python, Artificial Intelligence with Python, Video Analytics Using OpenCV and Python Shells, Pandas with Python Tutorial, Machine Learning using Python, Statistics for Data Science using Python

# Data Science with Python Course Skills

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We learn the following skills:

- Artificial Intelligence
- AI search algorithms
- Heuristic
- Genetic algorithms
- Scikit-learn module
- Predictive Analysis
- Random Forest
- Class Imbalance
- Grid Search
- Adaboost Regressor
- Affinity Propagation Model
- Clustering Quality
- Gaussian Mixture Model

# Course Features

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Course Duration-  
26+ Hours



Number of Courses



Verifiable  
Certificates



Lifetime Access



Technical  
Excellence

# About Data Science

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Data science is a field where information comes from various sources, which in turn gets converted into valuable insights for business and IT strategies.

While practicing Data science, you will come to know about various tools, algorithms and Machine learning principles that are usually used.

# Data Science with Python Course

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This is a Bundle Course that includes complete in-depth Data Science with Python Course combined into one Complete Course.

This Bundle perfectly meets the requisite of the industry and gives you a better chance of being hired as a Data Science with Python Course professional.

# 1

# Data Science with Python Course

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## Section 1. Introduction

- Introduction to Data Visualization

## Section 2. What is Data Science

- Understanding Data Science
- Python Environment Framework
- Various Python Scripts

## Section 3. Advanced Python

- Concept of Advanced Python
- Creating Functions for Python
- Creating a New Library
- Creating Bar Charts and others

## Section 4. Linear Algebra

- Vector Spaces in Linear Algebra
- Matrices in Linear Algebra
- Analysing Statistical Data
- Understanding Central Tendencies
- Dispersion for Data

## Section 5. Probability

- Probability in Discrete Mathematics
- Normal Distribution Curve
- Example for Normal Distribution Curve
- Central Limit Theorem
- Concept of Hypothesis
- Example on Hypothesis Testing
- Defining the Next Value
- Principle of P Hacking
- Understanding Bayesian Inference
- Line of Best Fit
- Data Science with Gradient Descent
- Example on Gradient Descent



# Data Science with Python Course

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## Section 5. Probability

- Probability in Discrete Mathematics
- Normal Distribution Curve
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- Central Limit Theorem
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- Data Science with Gradient Descent
- Example on Gradient Descent

## Section 7. Gradient Descent

- Value Import
- Output Functions for Gradient
- Working with Data Analysis
- Creating Normal Histogram
- Two Dimensional Graph
- Multiple Scatter Plots
- Analyzing Data Sets
- Learning Box Plots

## Section 8. Conclusion

Conclusion

# 2

# Artificial Intelligence with Python

## Section 1. Introduction

- Introduction to Predictive Analysis
- Random Forest and Extremely Random Forest

## Section 2. Class Imbalance and Grid Search

- Dealing with Class Imbalance
- Grid Search

## Section 3. Adaboost Regressor

- Adaboost Regressor
- Predicting Traffic Using Extremely Random Forest Regressor
- Traffic Prediction

## Section 4. Detecting patterns with Unsupervised Learning

- Detecting patterns with Unsupervised Learning
- Clustering
- Clustering Meanshift
- Clustering Meanshift Continues

## Section 5. Affinity Propagation Model

- Affinity Propagation Model
- Affinity Propagation Model Continues

## Section 6. Clustering Quality

- Clustering Quality
- Program of Clustering Quality

## Section 7. Gaussian Mixture Model

- Gaussian Mixture Model
- Program of Gaussian Mixture Model

# 2

# Artificial Intelligence with Python

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## Section 8. Classifiers

- Classification in Artificial Intelligence
- Processing Data
- Logistic Regression Classifier
- Logistic Regression Classifier Example Using Python
- Naive Bayes Classifier and its Examples
- Confusion Matrix
- Example os Confusion Matrix
- Support Vector Machines Classifier(SVM)
- SVM Classifier Examples

## Section 9. Logic Programming

- Concept of Logic Programming
- Matching the Mathematical Expression
- Parsing Family Tree and its Example
- Analyzing Geography Logic Programming
- Puzzle Solver and its Example

## Section 10. Heuristic Search Model

- What is Heuristic Search
- Local Search Technique
- Constraint Satisfaction Problem
- Region Coloring Problem
- Building Maze
- Puzzle Solver

## Section 11. Natural Language Processing

- Natural Language Processing
- Examine Text Using NLTK
- Raw Text Accessing (Tokenization)
- NLP Pipeline and Its Example
- Regular Expression with NLTK
- Stemming
- Lemmatization
- Segmentation Example
- Information Extraction
- Tag Patterns
- Representation of Chunks
- Chunking with Regular Expression
- Named Entity Recognition & Others



# 3

## Video Analytics Using Opencv and Python Shells

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### Section 1. Introduction

Introduction to Video Analytics

### Section 2. Color Models

- Purpose of BGR Model
- Importance of HSL Model
- Learning about HSV Color Model

### Section 3. Image Loading

- Process on Image Loading
- Program for Image Loading

### Section 4. Image Thresholding

- Concept of Image Thresholding
- Modules for Image Thresholding
- Program For Adapter Thresholding

### Section 4. Open CV and Object Detection

- Understanding OpenCV Library
- Object Detection and Tracking
- Tracking Approach using Object Detection
- Learning Capturing Video from Camera
- Capturing Video from File
- Learning to Save Video
- Example Code for Saving Video
- Knowing Blob Detection
- Simple Blob Detector
- Tracking Using Color Spaces
- Smoothing Images for Clear Detection
- Functions and Coding for Smoothing Images
- Understanding Contour Detection
- Learning about Camshift Algorithm & Other

# 4

# Pandas with Python Tutorial

## Section 1. Introduction

Introduction to Pandas with Python

## Section 2 . Data Set

- Understanding Jupiter Environment
- Reading the Data Set
- Series and Data Frame
- Operations in Data Set
- More on Panda Functions
- Column Names and Operation
- Removing Columns and Rows
- Sorting Data Frame
- Filtering Data

## Section 3 . Data Analysis

Filter Multiple Criteria  
Selective Columns and Rows  
Data Frame and Series  
Axis Parameter  
String Methods in Pandas  
Changing the Data Types  
Example of Data Type Change  
Group by Functions  
Functions on Series  
Plotting series in Pandas  
Dealing with Null Values  
Uses of Index  
Column in Index  
Output of Data  
Functions of ix Method and other.

## Section 4. Azure Data Lake

- Time Series Analysis
- Pattern in Time Series Data
- Time Series Modelling
- Moving Average Model
- Auto Correlation Function
- Inference of ACF and PFCF
- Diagnostic Checking
- Forecasting Using Stock Price
- Stock Price Index
- Run Prophet Stock
- Time Series Data Denationalization
- Average of Quarter Denationalization
- Regression of Denationalization

## Section 1. Introduction

Introduction to Pandas with Python  
Introduction Machine Learning Using Python

## Section 2 .Usage of Machine Learning Packages in Python

- Installation of Python
- Example of Machine Learning Using Python
- Example of Machine Learning Using Python Continues

## Section 3 .Linear Regression

- Linear Regression in ML
- Linear Regression Example
- Linear Regression Example Continues
- Support Vector Algorithm in ML

## Section 4. Classifier and Python Package

- Decision Tree Classifier
- Random Forest Classification
- K Mean Clustering
- Apriori Python Package
- Apriori Python Package Continues



# 5

# Machine Learning using Python

## Section 5. Evaluation Metrics

- Evaluation Metrics
- Example of Evaluation Metrics
- Confusion Matrix in Evaluation Metrics
- Classification Reports in Evaluation Metrics
- Example of MAE, MSE and Variance using Evaluation Metrics
- Seaborn Example using Evaluation Metrics
- Scatter Matrix using Evaluation Metrics

## Section 6. Missing Value

- Handling Missing Values in Python
- Handling Missing Values in Python Continues
- Exception Handling in Python
- More on Exception Handling in Python

# 6

# Statistics for Data Science using Python

## Section 1. Introduction

- Introduction to Data Science

## Section 2. Calculating Mode

- Calculating Mode
- Calculating Dispersion Measures
- Histogram Calculation
- Correlation Function
- Basic Concept of Statistics
- Pandas Data Frame

## Section 3. Basic Techniques

- Basic Reversion Techniques
- Using NumPy Techniques
- Summation of Elements

## Section 4. Testing Method


- Hypothetical Testing Method
- Differences in NumPy Package
- Calculating the Denominator

## Section 5. Exclusive Events

- Using Exclusive Events
- Finding the Measurement
- Implementing Test Scenarios

## Section 6. Statistics for Data Science

- Ordinary Least Square Regression Techniques
- Analyzing the Test Statistics
- Output of the Variables
- Multiple Explanatory Variables
- Fitting the Model
- Fitting the Model Continues
- Curve Fitting and Regression Fit Line
- Co-efficient and Intercept Value



# Frequently Asked Questions

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What are the system requirements?

We highly recommend to use a system as per below minimum specifications:

Processor: i3 +

RAM: 4 GB

Hard Disk – 128 GB

How long will it take to complete the Online Artificial Intelligence course?

You can enroll for Python Data Scientist training on our website and make an online payment using any of the following options Visa Credit Card, MasterCard Credit Card, Net Banking, Paypal. Once payment is received you will automatically receive a payment receipt and access information via email and you will also receive a welcome call.



# Customer Reviews

“

The Data Science with Python course goes through the different areas of data science with python. Beside a fundamental theory regarding the explained concepts, the diverse concepts are exemplified with short python programs. The lessons are good to understand and the programs presented to illustrate and implement the concepts are simple and significant.

Jorge Giro

”

This video training course was created in a very structured way and easy to understand. The fundamental and concept of Artificial Intelligence were well explained with simplicity approach. The demonstration of using Python and iPython provide an overview how the application works internally.

CHONG FONG KONG

“

I enjoyed this Data Science with Python course. It seemed to be very up-to-date. The instructors were clear, concise, and thorough. The structure was intuitive and presented in an understandable manner, building on each step and using data frames and sets that avoided confusion by using names that didn't sound like operational commands and vice versa. Grammar and logic were exceptional, with very little wasted time. A great introduction to using Pandas.

Michael Williams



**EDUCBA**

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# Data science with Python Course

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For Queries please contact:

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