(https://www.careerera.com/)

Data Science

Learn how to analyze and interpret data correctly.

Accelerate your career in Data Science with the exclusive Data Science Analytics Program. Experience world-class Data Science training by an industry leader on the most in-demand Data Science Skills. Gain hands-on exposure to key technologies including Python, Machine Learning, Data Visualization, SQL an Artificial Intelligence. Become an expert Data Science professional today.

The PGP-DS (Post Graduate Program in Data Science) gives you wide coverage to main ideas and techni from Python, Exploratory Data Analysis to Machine Learning, Deep Learning and more. Practical labs ar assignment work bring these ideas to life with our instructors and assistants to supervise you with the p

Equip your career with this commended PG Program in Data Science with Careerera and the team.

Show More

Why Data Science?

Data is the key to making good business decisions.

40%

Analytics professionals in India have a work experience of less than 3 years.

61%

Jobs are open for candidates with 0-5 years experience.

2.7 MILLION

The 2021 global estimate calls for 2.7 million job postings for analytics and data science roles.

33.5%

Indian data science industry is growing at a healthy rate of 33.5 per cent CAGR.

2021

India to become one of the top five markets for Big Data by 2021.

On the completion of this program, you will:

- Be well versed in analytics tools and technologies such as **Python, Tableau, SQL**
- Apply industry relevant machine learning techniques such as **Regression, Predictive Modelling, Clustering, Time Series Forecasting, Classification, etc.**
- Structure a business problem into an analytics framework using **statistics and data modelling**
- Perform data cleaning and **data transformation operations** using several tools and techniques
- Be well versed in **Deep learning, Natural Language Processing (NLP).**
- Present yourself as an ideal candidate for **analyst, data engineer, and data scientist roles** within leading analytics companies

Program Highlights

See which benefits you can derive from joining this program.

Online Program

- **12-month online program**
- **Online Lab Sessions**
- **Highly Experienced Faculties**

Collaborations

- **Careerera has collaboration with many eminent Universities and Organizations across the Globe to exchange the knowledge.**

Dedicated Placement Team

- Career guidance and mentorship by Careerera's faculty and industry leaders
- Resume review and interview preparation sessions
- Access to opportunities with leading companies

Become Job-ready

- Real-world case studies to build practical skills
- Hands-on exposure to analytics tools & techniques such as Python, Tableau, SQL
- Learn industry insights through multiple industry knowledge sessions

Program Curriculum

An overview of what you will learn from this program.

Foundations

Introduction to programming using Python

- Hello World
- Variables
- Basic Arithmetic & logical operators (int, float)
- Data Types - numbers, boolean & strings
- Concat, Subset, Position, length etc.
- If-else, loops
- Logic Flowcharts (Intuitive understanding of code flow)
- Pseudo Code
- Basic Programming syntax
- List, Tuples, Sets & Dictionaries
- Default functions
- Default methods
- Intro to Conditional statements (if-else, elif), Nested Conditional in Python
- Intro to Basic For, While Loops, Break

Database Management System using My SQL

- Introduction to DBMS
- An Introduction to Relational Database
- Concepts and SQL Accessing
- Data Servers MYSQL/RDBMS Concepts
- Extraction, Transformation and Loading (“ETL”) Processes
- Retrieve data from Single Tables-(use of SELECT Statement) and the power of WHERE and ORDER by Clause.
- Retrieve and Transform data from multiple Tables using JOINS and Unions
- Introduction to Views Working with Aggregate functions, grouping and summarizing Records Writing Sub queries

in Python
- Convert pseudo codes from Day 1 into programs using Loops and if-else.

- List Comprehension
- Use cases vs Loops
- Write Programs including both loops and If-else
- Practice list comprehensions
- Lab Exercises
- Exploring commonly used built in functions (min, max, sort etc.)
- Programming user defined functions
- Working with functions with and without arguments
- Functions with return items
- Understanding lambda functions
- Overview of map, reduce and filter functions

Data Analysis

Statistical Methods for Decision Making

- Sampling
- Probability distribution
- Normal distribution
- Poisson's distribution
- Bayes' theorem
- Central limit theorem
- Type 1 and Type 2 errors
- Hypothesis testing
- Types of hypothesis tests
- Confidence Intervals
- One Sample T-Test
- Anova and Chi-Square

Exploring Data Analysis

- Reading the Data
- Cleaning the Data
- Data Visualization in Python
- Summary statistics (mean, median, mode, variance, standard deviation)
- Seaborn
- Matplotlib
- Population VS sample
- Univariate and Multivariate sta tic
- Types of variables – Categoric nd Continuous
- Coefficient of correlations, Skewness and kurtosis

Machine Learning Techniques

Supervised Learning - Regression

- Looking at regression through the

Supervised Learning - Classification

- Classification Problems – Examples.

perspective of machine learning
- Accuracy scores as a metric of model performance
- Measuring the importance of individual variables in a regression model
- Review - testing for individual significance vs joint significance
- Using the adjusted R^2 to compare model with different number of independent variables
- Approaches to feature selection
- Forward and backward selection
- Parameter tuning and Model evaluation
- Extending linear regression
- Data transformations and normalization
- Log transformation of dependent and independent variables
- Case study: -
- Dealing with categorical independent variables
- One hot encoding vs dummy variable regression
- Case study on linear regression
- Modelling probabilistic dependent variables
- The sigmoid function and odds ratio
- The concept of logit
- The failure of OLS in estimating parameters for a logistic regression
- Introduction to the concept of Maximum likelihood estimation
- Advantages of the maximum likelihood approach
- Modelling a logistic regression problem with a case study
- Making predictions and evaluating parameters

Unsupervised Learning

- What is Unsupervised learning?
- The two major Unsupervised Learning problems - Dimensionality
- Binary classification vs Multi class classification.
- Decision trees – Simple decision trees. Visualizing decision trees and nodes and splits.
- Working of the Decision tree algorithm.
- Importance and usage of Entropy and Gini index.
- Manually calculating entropy using Gini formula and working out how to split decision nodes
- Evaluating decision tree models.
- Accuracy metrics – precision, recall and confusion matrix
- Interpretation for accuracy metric.
- Building a a robust decision tree model. k-fold cross validation - Advantages against simple train test split.
- CART - Extending decision trees to regressing problems.
- Advantages of using CART.
- The Bayes theorem. Prior probability.
- The Gaussian NAÏVE'S BAYES Classifier.
- Assumptions of the Naive Bayes Classifier.
- Functioning of the Naïve's Bayes algorithm.
- Evaluating the model - Precision, Recall, Accuracy metrics and k-fold cross validation
- ROC Curve and AUC for binary classification for Naive Bayes.
- Extending Bayesian Classification for multiclass classification

Ensemble Techniques

- Bagging
- Boosting
- Bagging & Boosting Examples

reduction and clustering.

- Clustering algorithms.
- The different approaches to clustering – Hierarchical and K means clustering.
- Hierarchical clustering - The concept of agglomerative and divisive clustering.
- Agglomerative Clustering – Working of the basic algorithms.
- Distance matrix - Interpreting dendograms.
- Choosing the threshold to determine the optimum number of clusters.
- Case Study on Agglomerative clustering
- The K-means algorithm.
- Measures of distance – Euclidean, Manhattan and Minowski distance.
- The concept of within cluster sums of squares.
- Using the elbow plot to select optimum number of cluster's.
- Case study on k-means clustering.
- Comparison of k means and agglomerative approaches to clustering.
- Noise in the data and dimensional reduction.
- Capturing Variance - The concept of a principal components.
- Assumptions in using PCA.
- The working of the PCA algorithm.
- Eigen vectors and orthogonality of principal components.
- What is complexity curve?
- Advantages of using PCA.
- Build a model using Principal components and comparing with normal model. What is the difference?
- Putting it all together.
- The relationship between unsupervised and supervised learning.
- Case study on Dimensionality reduction followed by a supervised

learning model.
- Case study on Clustering followed by classification model.

Data Visualization

Data Visualization Using Tableau

- Introduction to Visualization, Rules of Visualization
- Data Types, Sources, Connections, Loading, Reshaping
- Data Aggregation
- Working with Continuous and Discrete Data
- Using Filters
- Using Calculated Fields and parameters
- Creating Tables and Charts
- Building Dash Boards and story boards
- Sharing Your Work and Publishing for wider audience

Data Visualization Using Google Data Studio

- Introduction to Visualization, Rules of Visualization
- Data Types, Sources, Connections, Loading, Reshaping
- Data Aggregation
- Working with Continuous and Discrete Data
- Using Filters
- Using Calculated Fields and parameters
- Creating Tables and Charts
- Building Dash Boards and story boards
- Sharing Your Work and Publishing for wider audience

Introduction To Artificial Intelligence

Time Series Forecasting

- What is Time Series?
- Regression vs Time Series
- Examples of Time Series data
- Trend, Seasonality, Noise and Stationarity
- Time Series Operations
- Detrending
- Successive Differences
- Moving Average and Smoothing
- Exponentially weighted forecasting model
- Lagging
- Correlation and Auto-correlation
- Holt Winters Methods
- Single Exponential smoothing

Deep Learning And Neural Network

- Introduction to Deep Learning
- Neural Networks Basics
- Shallow Neural Networks
- Deep Neural Networks
- Forward Propagation and Backpropagation.
- How to Build and Train Deep Neural networks, and apply it to Computer Vision.

Text Mining And Sentiment Analysis

- Holt's linear trend method
- Holt's Winter seasonal method
- ARIMA and SARIMA

- Text cleaning, regular expressions, Stemming, Lemmatization
- Word cloud, Principal Component Analysis, Bigrams & Trigrams
- Web scrapping, Text summarization, Lex Rank algorithm
- Latent Dirichlet Allocation (LDA) Technique
- Word2vec Architecture (Skip Grams vs CBOW)
- Text classification, Document vectors, Text classification using Doc2vec

Capstone Projects

Test your skills and mettle with a capstone project.

Retail

Techniques used: Market Basket Analysis, RFM (Recency-Frequency Monetary) Analysis, Time Se Forecasting

E-commerce

Techniques used: Text Mining, Kmeans Clustering, Regression Trees, XGBoost, Neural Network

Web & Social Media

Techniques used: Topic Modeling using 9 Latent Dirichlet Allocation. K-Means & Hierarchical Clustering

Banking

Techniques used: Linear Discriminant Analysis, Logistic Regression, Neural Network, Boosting, Random Forest, CART

Supply Chain

Techniques used: Text Mining, Kmeans Clustering, Regression Trees, XGBoost, Neural Network

Healthcare

Techniques used: Logistic Regression, Random Tree, ADA Boost, Random Forest, KSVM

Retail

Techniques used: Market Basket Analysis, Brand Loyalty Analysis

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Insurance

Techniques used: NLP (Natural Language Processing), Vector Space Model, Latent Semantic Anal

Why Careerera

Enroll with India's number one online educational course provider.

USERS

250000+

TOP RANKED PROGRAMS

10

INDUSTRY EXPERTS

500+

INDIA'S BEST DATA SCIENCE FACULTY

25+

Data Science Batch Profile

Our students include freshers and experienced professionals from across industries, functions and backgrounds.

Placement Assistance*

Take advantage of Careerera's partnerships with India's leading IT companies.

Access to Opportunities with Leading Companies

Workshops on Resume Review & Interview Preparation

Career Guidance and Mentorship by Careerera and Industry Leaders

Placement Highlight

200+
Participating Companies

$122K PA
Average CTC

$250K
Highest CTC

87%

Average Salary Hike

Hiring Partners

We Assure You Job Assitance at the End of the Program

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Application Process

Enroll in the program with a simple online form.

Apply by filling a simple online application form

Admissions committee will review and shortlist.

Shortlisted candidates need to appear for an online aptitude test.

Screening call with Alumni/ Faculty

Sign Up

Please select your country

Name *

Email *

+1 Phone *

CourseName

5 + 7 = ?

Submit

FAQ

Find answers to all your queries and doubts here.

Q1 : What is the PGP in Data Science course from Careerera and what makes it different from individual courses?

A : Post Graduate Program in Data Science is a carefully designed learning path that has been created some of the leading industry experts. The structure of the course curriculum has been set up in a way even a complete beginner to Data Science will be able to follow the course progression and understa the course materials clearly. Our world-class instructors will ensure that you become a master of Dat Science by the time you complete the course.

Q2 : Can Careerera provide the PGP in Data Science course at a location near me?

Q3 : Can I ask for a support and doubt clearing session if I want to understand the topics at a deeper level?

Q4 : Which kind of projects are assigned as part of the training?

Q5 : Does Careerera provide any kind of job assistance?

- Q6 : What is the definition of Data Science? What makes it so important?
- Q7 : Is Data Scientist a good Career choice?
- Q8 : What are the skills required to start a job in the field of Data Science?
- Q9 : Who is eligible for taking the PGP in Data Science course from Careerera?
- Q10 : What are the tools and technologies used to teach this PGP in Data Science course from Careerera?
- Q11 : What is the duration of this PGP in Data Science course from Careerera?
- Q12 : Which topics are covered in the course curriculum of the PGP in Data Science course from Careerera?
- Q13 : Which sectors are the capstone projects based on?
- Q14 : Is there any guarantee of placement after the completion of the PGP in Data Science course?
- Q15 : Is there a refund of the course fees in case I do not get placed after the completion of the course?
- Q16 : Why should one choose Careerera?

CERTIFICATE
OF ACHIEVEMENT

Post Graduate Program

IN

Data Science

THIS CERTIFICATE IS PRODULY PRESENTED TO

John Smith

For Successful Completion of the Post Graduate Program

In

Data Science with all the Mandatory Course

Requirements

and Capstone Projects with Distinction.

11/03/2020

Date

Signature

www.careerera.com

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0000001886

STUDENT'S REVIEW & FEEDBACK

Post a comment

Swathish

★★★★★

A very useful course overall. I really enjoyed the journey from Data Science basics like Multivariable Calculus all the way to advanced concepts of Machine Learning. The instructor was excellent and taught course in a clear, concise, and thorough manner. He answered all my doubts patiently and helped us in a hands-on way with our end-term projects.

Gaurav Sharma

★★★★★

I am completely new to the field of Data Science but the team at Careerera has put together such a wonderful course on Data Science that even I was able to understand everything clearly. The assignmen were very relevant to the course and helped us practice and learn all the concepts practically. The instructors were very helpful too.

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vaishali

★★★★★

I enjoyed this course very much. It was structured in a way that made it extremely easy to keep up with t instructors. I especially liked the way Linear regression and Calculus was introduced with visual exampl and good concept building. The instructors made the content simple and smooth and I was able to get a g grasp on everything taught.

Pooja kulkarni

★★★★★

This course is one of the best online resources on Data Science. The explanations of all the concepts wer well-developed, complete, and logical. The instructors knowledge of the subject matter was comprehen and it showed in their teaching. The order of the topics was decided very wisely as they all built upon on another progressively and were supplemented by assignments which were put together very well. The difficulty of the assignments and the projects was exactly what I required to practice the subject matter properly.

Mark Stapay

★★★★★

The instructors have done a superb job in crafting the content for the course together. I did not have any prior programming experience but I was able to understand everything taught in the course regarding Python and Machine Learning very quickly. I particularly liked all the extra notes, assignments, and proj assigned to the students as they enabled me to test and polish my learning and skills.

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kim

★★★★★

I received a great learning experience from taking Careerera's PGP in Data Science course. It has made r an intermediate learner of Data Science from a complete beginner. I think it was only possible due to the wonderful tools, notes, and videos provided by the instructors. They made the content very straightforv and transparent. I also thought that the assignments and projects that they set for us were very helpful t making me recall what I had studied.

Darrel Green

★★★★★

At first I was skeptical that I would benefit at all from an online PGP in Data Science course. But when I started studying in the course through Careerera I was pleasantly surprised by their brilliant online setu facilities, and instructors. The quality of the course material was par excellence and I was able to unders and learn the course material very easily and smoothly. The assignments and projects assigned to the students were set at a very appropriate difficulty too.

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safwan

★★★☆☆

I would highly recommend this PGP in Data Science course from Careerera to anyone seeking to improv their skills and knowledge of Data Science. I enrolled in this course with the aim of learning more about Machine Learning and I was able to learn more about it successfully because of the wonderful instructo and their quality training materials such as notes, videos, assignments, and projects. The best part was t they responded to all my doubts and questions very quickly.

Mike G

★★★★☆

Even though there were lots of options for beginners for learning Data Science, I chose Careerera's PGP Data Science course because of Careerera's sterling brand and reputation. I don't regret that choice in tl slightest and am thankful to Careerera for providing such a wonderful course. The course material inclu the videos, notes, and projects were all perfect for a beginner and the assignments were evaluated whic helped me clear all my doubts.

Guillaume K

★★★★★

I would like to express my gratitude to Careerera was delivering such a wonderful presentation on Data Science in the form of their PGP in Data Science course. Initially, I was worried about the quality of the course since it was online but when I actually enrolled in it I found all the components of the course to b first-class. The videos were great, the notes and assignments were very helpful, and the projects really r me think hard about the material that I had studied.

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* Only in India

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