

DATA SCIENCE













ABOUT TRAINING







The Program in Data Science covers many important subjects, provides you with live industry-based projects, and offers valuable practical experience. This in-depth Data Science certification course will help you master all the key principles of Data Analytics and develop all the essential skills required to become a professional.

Why Choose Our Data Science Training?

- 1. Expert Instructors: Our training programs are led by seasoned professionals with extensive experience in finance and Data Science.
- 2. They bring real-world insights and practical knowledge to the classroom, ensuring you learn from the best.
- 3. Comprehensive Curriculum: Our Data Science training covers all facets of financial accounting and controlling, ensuring you gain proficiency in areas such as accounts receivable, accounts payable, general ledger accounting, asset accounting, cost element accounting, and much more.
- 4. Certification: Upon successful completion of our Data Science training, you'll receive a recognized certification that validates your expertise. This certification can significantly enhance your resume and career prospects.
- 5. Career Support: We don't just stop at training; we're invested in your success. Our career support services include job placement assistance, resume building, and interview preparation to help you land your dream job.



Key Highlights



Learning Path





Who Should Enroll in this Program?

Our Data Science training is suitable for a wide range of individuals, including:

- Aspiring finance professionals looking to kickstart their career.
- Finance and accounting professionals seeking to upgrade their skills.
- Business analysts and IT professionals involved in finance system implementations.

Data Science Training Curriculum

Module 1: Python for Data Science

Introduction To Python:

- · Installation and Working with
- Python Understanding Python
- variables Python basic Operators
- Understanding the Python blocks.

Python Keyword and Identifiers

- Python Keyword and Identifiers
- Python Comments, Multiline
- Comments. Python Indentation
- Understating the concepts of Operators • Arithmetic
 - Relational
 - Logical
 - Assignment
 - Membership
 - Identity

Introduction To Variables:

- Variables, expression condition and function
- Global and Local Variables in Python
- Packing and Unpacking Arguments
- Type Casting in Python
- Byte objects vs. string in Python
- Variable Scope

Python Data Type:

- Declaring and using Numeric data types
- Using string data type and string operations
- Understanding Non-numeric data types
- Understanding the concept of Casting and
- Boolean. Strings
- List
- Tuples
- Dictionary
- Sets

Control Structure & Flow

- Statements if, else, elif
- How to use nested IF and Else in Python
- Loops
- Loops and Control Statements.
- Jumping Statements Break, Continue, pass
- Looping techniques in Python
- How to use Range function in Loop?
- Programs for printing Patterns in Python
- How to use if and else with Loop
- Use of Switch Function in Loop
- Elegant way of Python Iteration
- Generator in Python
- How to use nested Loop in Python
- Use If and Else in for and While Loop
- Examples of Looping with Break and Continue Statement
- How to use IN or NOT IN keyword in Python Loop.

Python Function, Modules and Packages

- Python Syntax
- Function Call
- Return Statement
- Arguments in a function Required, Default, Positional, Variable-
- length Write an Empty Function in Python –pass statement.
- Lamda/ Anonymous Function
- *args and **kwargs
- Help function in Python
- Scope and Life Time of Variable in Python Function
- Nested Loop in Python Function
- Recursive Function and Its Advantage and Disadvantage
- Organizing python codes using functions
- Organizing python projects into modules
- Importing own module as well as external modules
- Understanding Packages
- Random functions in python
- Programming using functions, modules & external packages
- Map, Filter and Reduce function with Lambda Function
- More example of Python Function

Python Date Time and Calendar:

- Day, Month, Year, Today, Weekday
- IsoWeek day
- Date Time
- Time, Hour, Minute, Sec, Microsec
- Time Delta and UTC
- StrfTime, Now
- Time stamp and Date Format
- Month Calendar
- Itermonthdates
- Lots of Example on Python Calendar
- Create 12-month Calendar
- Strftime
- Strptime
- Format Code list of Data, Time and Cal
- Locale's appropriate date and time

List

- What is List.
- List Creation
- List Length
- List Append
- List Insert
- List Remove
- List Append & Extend using "+" and Keyword
- List Delete
- List related Keyword in Python
- List Revers
- List Sorting
- List having Multiple Reference
- String Split to create a List
- List Indexing
- List Slicing
- List count and Looping
- List Comprehension and Nested Comprehension

Tuple

- What is Tuple
- Tuple Creation

- Accessing Elements in Tuple
- Changing a Tuple
- Tuple Deletion
- Tuple Count
- Tuple Index
- Tuple Membership
- TupleBuilt in Function (Length, Sort)

Dictionary

- Dict Creation
- Dict Access (Accessing Dict Values)
- Dict Get Method
- Dict Add or Modify Elements
- Dict Copy
- Dict From Keys.
- Dict Items
- Dict Keys (Updating, Removing and Iterating)
- Dict Values
- Dict Comprehension
- Default Dictionaries
- Ordered Dictionaries
- Looping Dictionaries
- Dict useful methods (Pop, Pop Item, Str, Update etc.)

Sets

- What is Set
- Set Creation
- Add element to a Set
- · Remove elements from a
- Set PythonSet Operations
- Frozen Sets

Strings

- What is Set
- Set Creation
- Add element to a Set
- · Remove elements from a
- Set PythonSet Operations

Python Exception Handling

- Python Errors and Built-in-Exceptions
- Exception handing Try, Except and
- Finally Catching Exceptions in Python
- Catching Specific Exception in Python
- Raising Exception
- Try and Finally

Python File Handling

- Opening a File
- Pvthon File Modes
- Closing File
- Writing to a File
- Reading from a File
- Renaming and Deleting Files in Python
- Python Directory and File Management List
- Directories and Files
- Making New Directory
- Changing Directory

Python Database Interaction

- SQL Database connection using
- Creating and searching tables
- Reading and Storing config information on
- database Programming using database connections

Contacting user Through Emails Using Python

- Installing SMTP Python Module
- Sending Email
- Reading from file and sending emails to all users

Reading an excel

- Working With Excel
- Reading an excel file using Python
- Writing to an excel sheet using Python
- Python| Reading an excel file
- Python | Writing an excel file
- Adjusting Rows and Column using Python
- ArithmeticOperation in Excel file.
- Play with Workbook, Sheets and Cells in Excel using Python

- Creating and Removing Sheets
- Formatting the Excel File Data More
- example of Python Function

Complete Understanding of OS Module of Python

- Check Dirs. (exist or not)
- How to split path and extension?
- How to get user profile detail?
- Get the path of Desktop, Documents, Downloads etc.
- Handle the File System Organization using OS
- How to get any files and folder's details using OS?

Module 2 : Data Analysis and Visualization

- Data Analysis and Visualization using Pandas.
- Statistics
 - Categorical Data
 - Numerical Data
 - Mean
 - Median
 - Mode
 - Outliers
 - Range
 - Interquartile range
 - Correlation
 - Standard Deviation
 - Variance
 - Box plot

Pandas

- Read data from Excel File using Pandas More Plotting, Date
 Time Indexing and writing to files
- How to get record specific records Using Pandas Adding & Resetting Columns, Mapping with function
- Using the Excel File class to read multiple sheets More Mapping,
 Filling Nonvalue's
- Exploring the Data Plotting, Correlations, and Histograms
- Getting statistical information about the data Analysis
 Concepts, Handle the None Values

- Reading files with no header and skipping records Cumulative
 Sums and Value Counts, Ranking etc
- Reading a subset of columns Data Maintenance, Adding/Removing

 Cols and Rows
- Applying formulas on the columns Basic Grouping, Concepts of Aggre gate Function
- Complete Understanding of Pivot Table Data Slicing using iLoc and Loc property (Setting Indices)
- Under sting the Properties of Pivot Table in Pandas Advanced Reading CSVs/HTML, Binning, Categorical Data
- Exporting the results to Excel Joins:
- Python | Pandas Data Frame Inner Join
- Under sting the properties of Data Frame Left Join (Left Outer Join)
- Indexing and Selecting Data with Pandas Right Join (Right Outer Join)
- Pandas | Merging, Joining and Concatenating Full Join (Full Outer Join)
- Pandas | Find Missing Data and Fill and Drop NA Appending Data Frame and Data
- Pandas | How to Group Data How to apply Lambda / Function on Data Frame
- Other Very Useful concepts of Pandas in Python Data Time Property in Pandas (More and More)
- Data Analysis and Visualization using NumPy and MatPlotLib

NumPy

- Introduction to NumPy: Numerical
- Python Importing NumPy and Its
- Properties
- NumPy Arrays
- Creating an Array from a CSV
- Operations an Array from a CSV
- Operations with NumPy Arrays Two-
- Dimensional Array
- Selecting Elements from 1-D Array
- Selecting Elements from 2-D Array
- Logical Operation with Arrays
- Indexing NumPy elements using conditionals NumPy's Mean and Axis

- NumPy's Mode, Median and Sum Function
- NumPy's Sort Function and More

MatPlotLib

- Bar Chart using Python MatPlotLib
- Column Chart using Python MatPlotLib
- Pie Chart using Python MatPlotLib
- Area Chart using Python MatPlotLib
- Scatter Plot Chart using Python MatPlotLib
- Play with Charts Properties Using MatPlotLib
- Export the Chart as Image
- Understanding plt. subplots () notation
- Legend Alignment of Chart using MatPlotLib
- Create Charts as Image
- Other Useful Properties of Charts.
- Complete Understanding of Histograms
- Plotting Different Charts, Labels, and Labels Alignment etc.

Introduction to Data Visualization with Seaborn

Introduction to Seaborn

- Introduction to Seaborn
- Making a scatter plot with lists
- Making a count plot with a list
- Using Pandas with seaborn
- Tidy vs Untidy data
- Making a count plot with a Dataframe
- Adding a third variable with hue
- Hue and scattera plots
- Hue and count plots

Visualizing Two Quantitative Variables

- Introduction to relational plots and subplots
- Creating subplots with col and row
- Customizing scatters plots
- Changing the size of scatter plot points
- Changing the style of scatter plot points
- Introduction to line plots
- Interpreting line plots
- Visualizing standard deviation with line plots

Plotting subgroups in line plots

Visualizing a Categorical and a Quantitative Variable

- Current plots and bar plots
- Count plots
- Bar plot with percentages
- Customizing bar plots
- Box plots
- Create and interpret a box
- plot Omitting outliers
- Adjusting the whisk
- Point plots
- Customizing points plots
- Point plot with subgroups

Customizing Seaborn Plots

- Changing plot style and colour
- Changing style and palette
- Changing the scale
- Using a custom palette
- Adding titles and labels: Part 1
- Face Grids vs. Axes Subplots
- Adding a title to a face Grid object
- Adding title and labels: Part 2
- Adding a title and axis labels
- Rotating x-tics labels
- Putting it all together
- Box plot with subgroups
- Bar plot with subgroups and subplots
- Well done! What's next?

Module 3 : Databases – MS SQL and SQL Queries

SQL Server Fundamentals

- SQL Server 2019 Installation
- Service Accounts & Use, Authentication Modes & Usage,
 Instance Configurations
- SQL Server Features & Purpose
- Using Management Studio (SSMS)
- Configuration Tools & SQLCMD

Conventions & Collation

SQL Server 2019 Database Design

- SQL Database Architecture
- Database Creation using GUI
- Database Creation using T-SQL scripts
- DB Design using Files and File Groups
- File locations and Size parameters
- Database Structure modifications

SQL Tables in MS SQL Server

- SQL Server Database Tables
- Table creation using T-SQL Scripts
- Naming Conventions for Columns
- Single Row and Multi-Row Inserts
- Table Aliases
- Column Aliases & Usage
- Table creation using Schemas
- Basic INSERT
- UPDATE
- DELETE
- SELECT queries and Schemas
- Use of WHERE, IN and BETWEEN
- Variants of SELECT statement
- ORDER BY
- GROUPING
- HAVING
- ROWCOUNT and CUBE Functions

Data Validation and Constraints

- Table creation using Constraints
- NULL and IDENTITY properties
- UNIQUE KEY Constraint and NOT NULL
- PRIMARY KEY Constraint & Usage
- CHECK and DEFAULT Constraints
- Naming Composite Primary Keys
- Disabling Constraints & Other Options

Views and Row Data Security

- Benefits of Views in SQL Database
- Views on Tables and Views
- SCHEMA BINDING and ENCRYPTION
- Issues with Views and ALTER TABLE
- Common System Views and Metadata
- Common Dynamic Management views
- Working with JOINS inside views

Indexes and Query tuning

- Need for Indexes & Usage?
- Indexing Table & View Columns
- Index SCAN and SEEK
- INCLUDED Indexes & Usage
- Materializing Views (storage level)
- Composite Indexed Columns & Keys
- Indexes and Table Constraints
- Primary Keys & Non-Clustered Indexes

Stored Procedures and Benefits

- Why to use Stored Procedures?
- Types of Stored Procedures
- Use of Variables and parameters
- SCHEMABINDING and ENCRYPTION
- INPUT and OUTPUT parameters
- System level Stored Procedures
- Dynamic SQL and parameterization

System functions and Usage

- Scalar Valued Functions
- Types of Table Valued
- Functions SCHEMABINDING
- and ENCRYPTION System
- Functions and usage Date
- Functions
- Time Functions
- String and Operational
- Functions ROW_COUNT GROUPING Functions

Triggers, cursors, memory limitations

- Why to use Triggers?
- DML Triggers and Performance impact
- INSERTED and DELETED memory tables
- Data Audit operations & Sampling
- Database Triggers and Server Triggers
- Bulk Operations with Triggers

Cursors and Memory Limitations

- Cursor declaration and Life cycle
- STATIC
- DYNAMIC
- SCROLL Cursors
- FORWARD_ONLY and LOCAL Cursors
- KEYSET Cursors with Complex SPs

Transactions Management

- ACID Properties and Scope
- EXPLICIT Transaction types
- IMPLICIT Transactions and options
- AUTOCOMMIT Transaction and usage
- SAVEPOINT and Query Blocking

Module 4: Statistics for Data Science & EDA

Introduction to Data Science

- What is Analytics & Data Science?
- Common Terms in Data Science
- What is data?
- Classification of data
- Relevance in industry and need of the hour
- Types of problems and business objectives in various industries How
- leading companies are harnessing the power of analytics? Critical
- · success drivers.
- Overview of Data Science tools & their popularity.
- Data Science Methodology & problem-solving framework.
- List of steps in Data Science projects
- Identify the most appropriate solution design for the given problem statement

- Project plan for Data Science project & key milestones based on effort estimates
- Build Resource plan for Data Science project
- Why Python for data science?

Accessing/Importing and Exporting Data

- Importing Data from various sources (Csv, txt, excel,
- access etc) Database Input (Connecting to database)
- Viewing Data objects sub setting, methods
- Exporting Data to various formats
- Important python modules: Pandas

Data Manipulation: Cleansing - Munging Using Python Modules

- Cleansing Data with Python
- Filling missing values using lambda function and concept of Skewness.
- Data Manipulation steps (Sorting, filtering, duplicates, merging, appending, sub setting, derived variables, sampling, Data type conversions, renaming, formatting.
- Normalizing data

Feature Engineering in Data Science

- Feature Engineering
- Feature Selection
- Feature scaling using Standard Scaler/Min-Max
- scaler/Robust Scaler. Label encoding/one hot encoding

Data Analysis: Visualization Using Python

- Introduction exploratory data analysis
- Descriptive statistics, Frequency Tables and summarization
- Univariate Analysis (Distribution of data & Graphical Analysis)
- Bivariate Analysis (Cross Tabs, Distributions & Relationships, Graphical Analysis)
- Creating Graphs- Bar/pie/line chart/histogram/ boxplot/ scatter/ density etc.)
- Important Packages for Exploratory Analysis (NumPy Arrays, Matplotlib, seaborn, Pandas etc.)

Introduction to Statistics

- Descriptive Statistics
- Sample vs Population Statistics

- Random variables
- · Probability distribution
- functions Expected value
- Normal distribution
- Gaussian distribution
- Z-score
- Spread and Dispersion
- Correlation and Co-variance

Introduction to Predictive Modelling

- Concept of model in analytics and how it is used?
- Common terminology used in Analytics & Modelling
- process Popular Modelling algorithms
- Types of Business problems Mapping of Techniques
- Different Phases of Predictive Modelling

EDA (Exploratory Data Analysis)

- Need for structured exploratory data
- EDA framework for exploring the data and identifying any problems with the data (Data Audit Report)
- Identify missing data
- Identify outliers' data
- Imbalanced Data Techniques

Data Pre-Processing & Data Mining

- Data Preparation
- Feature Engineering
- Feature Scaling
- Datasets
- Dimensionality Reduction
- Anomaly Detection
- Parameter Estimation
- Data and Knowledge
- Selected Applications in Data Mining

Module 5 : Machine Learning

Introduction to Machine Learning

- Machine Learning
- Machine Learning Algorithms

- Algorithmic models of Learning
- Applications of Machine Learning
- Large Scale Machine Learning
- Computational Learning theory
- Reinforcement Learning

Introduction to Machine Learning

- Machine Learning
- Machine Learning Algorithms
- Algorithmic models of Learning
- Applications of Machine Learning
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- Computational Learning theory
- Reinforcement Learning

Techniques of Machine Learning

- Supervised Learning
- Unsupervised Learning
- Semi-supervised and Reinforcement
- Learning Bias and variance Trade-off
- Representation Learning

Regression

- Regression and its Types
- Logistic Regression
- Linear Regression
- Polynomial Regression

Classification

- Meaning and Types of Classification
- Probability and Bayes Theorem
- Support Vector Machines
- Naive Bayes
- Decision Tree Classifier
- Random Forest Classifier

Module 6 : Deep Learning

Introduction to Deep Learning

- What are the Limitations of Machine
- Learning? What is Deep Learning?

- Advantage of Deep Learning over Machine
- learning Reasons to go for Deep Learning
- · Real-Life use cases of Deep Learning

Deep Learning Networks

- What is Deep Learning Networks?
- Why Deep Learning Networks?
- How Deep Learning Works?
- Feature Extraction
- Working of Deep Network
- Training using Backpropagation
- Variants of Gradient Descent

Module 7 : Microsoft Power BI

Introduction to Power BI

- Overview of BI concepts
- Why we need BI?
- Introduction to SSBI
- SSBI Tools
- Why Power BI?
- What is Power BI?
- Building Blocks of Power BI
- Getting started with Power BI
- Desktop Get Power BI Tools
- Introduction to Tools and
- Terminology Dashboard in Minutes
- Interacting with your Dashboards
- Sharing Dashboards and Reports

Power BI Desktop

- Power BI Desktop
- Extracting data from various
- sources Workspaces in Power BI

Power BI Data Transformation

- Data Transformation
- Query Editor
- Connecting Power BI Desktop to our Data
- Sources Editing Rows
- Understanding Append Queries

- Editing Columns
- Replacing Values
- Formatting Data
- Pivoting and Unpivoting Columns
- Splitting Columns
- Creating a New Group for our Queries
- Introducing the Star Schema
- Duplicating and Referencing Queries
- Creating the Dimension Tables
- Entering Data Manually
- Merging Queries
- Finishing the Dimension Table
- Introducing the another DimensionTable
- Creating an Index Column
- Duplicating Columns and Extracting Information
- Creating Conditional Columns
- Creating the FACT Table
- Performing Basic Mathematical Operations
- Improving Performance and Loading Data into the Data Model

Modelling with Power BI

- Introduction to Modelling
- Modelling Data
- Manage Data Relationship
- Optimize Data Models
- Cardinality and Cross Filtering
- Default Summarization & Sort by
- Creating Calculated Columns Creating
- Measures & Quick Measures

Data Analysis Expressions (DAX)

- What is DAX?
- Data Types in DAX
- Calculation Types
- Syntax, Functions, Context
- Options DAX Functions
 - Date and Time
 - Time Intelligence
 - Information

- Logical
- Mathematical
- Statistical
- Text and Aggregate
- Measures in DAX
- . Measures and Calculated Columns
- . ROW Context and Filter Context in DAX
- . Operators in DAX Real-time Usage
- Quick Measures in DAX Auto validations
- . In-Memory Processing: DAX Performance

Power BI Desktop Visualisations

- How to use Visual in Power BI?
- What Are Custom Visuals?
- Creating Visualisations and Colour Formatting
- Setting Sort Order
- Scatter & Bubble Charts & Play Axis
- Tooltips and Slicers, Timeline Slicers & Sync Slicers
- Cross Filtering and Highlighting
- Visual, Page and Report Level Filters
- Drill Down/Up
- Hierarchies and Reference/Constant Lines
- Tables, Matrices & Conditional Formatting
- KPI's, Cards & Gauges
- Map Visualizations
- Custom Visuals
- Managing and Arranging
- Drill through and Custom Report Themes
- Grouping and Binning and Selection Pane, Bookmarks
- & Buttons Data Binding and Power BI Report Server

Introduction to Power BI Dashboard and Data Insights

- Why Dashboard? and Dashboard vs Reports
- Creating Dashboards
- · Configuring a Dashboard: Dashboard Tiles,
- Pinning Tiles Power BI Q&A
- Quick Insights in Power BI

Direct Connectivity

- Custom Data Gateways
- · Exploring live connections to data with Power BI
- Connecting directly to SQL Server
- Connectivity with CSV & Text Files
- Excel with Power BI: Connect Excel to Power BI,
 Power BI Publisher for Excel
- Content packs
- Update content packs

Publishing and Sharing

- Introduction and Sharing Options Overview
- Publish from Power BI Desktop and Publish to Web
- Share Dashboard with Power BI Service
- Workspaces (Power BI Pro) and Content Packs (Power BI Pro)
- Print or Save as PDF and Row Level Security (Power BI Pro)
- Export Data from a Visualization
- Export to PowerPoint and Sharing Options Summary

Refreshing Datasets

- Understanding Data Refresh
- Personal Gateway (Power BI Pro and 64-bit Windows)
- Replacing a Dataset and Troubleshooting Refreshing

Module 8 : Data Science Professionals - Live Projects

- Managing credit card Risks
- Bank Loan default classification
- YouTube Viewers prediction
- Super store Analytics (E-commerce)
- Buying and selling cars prediction (like OLX)
- process) Advanced House price prediction
- Analytics on HR decisions
- Survival of the fittest
- Twitter Analysis
- Flight price prediction

Training Certifications

Earn Your Certificate

Your certificate and skills are vital to the extent of jumpstarting your career and giving you a chance to compete in a global space.



IT Wave Solution! Reviews



"By The Students For The Students"

Your Success Is Our Story



Prashant Singh

I am fully satisfied with the excellent training services received by the expert staff at IT Wave Solution. I want to thank IT Wave solution for providing me with the most innovative and affordable training services for learning all the software testing procedures and guidelines.





Swati Kumari

The Best Service provider I must say they have very knowledgeable staff and good command on Hardware/software, value to money and value to time.. Must Recommend this place to everyone.





Anant Chaudhary

I had a fantastic experience with IT Wave Solution. It's undeniably the best place to learn HANA and explore various other IT opportunities. The instructors are highly knowledgeable and dedicated, making the learning process enjoyable and productive. The hands-on experience I gained here was invaluable, and I can confidently say that IT Wave Solution is the go-to destination for anyone looking to excel in the IT field. I highly recommend it!



Glimpse Of Our Office

Look Who We are

Our office's infrastructure comprises all the necessary software and network resources that are required to deliver IT & Design, Human Resources, Digital Marketing, and training services. We are well-equipped with bright designed work bays for employees and managers having separate cabins with spacious cafeteria and training classrooms

















About IT Wave Solution

66IT Wave Solution to Empowering Minds, Transforming Futures: Your Path to Excellence Starts Here!

IT Wave Solution, a pioneering IT solutions company that has been serving the industry since 2012. With a team of experienced SAP professionals at the helm, we have evolved into a leader in providing comprehensive IT services and training. Our commitment to excellence, innovation, and customer satisfaction sets us apart in the ever-evolving technology landscape. We are a leading company that specializes in providing comprehensive IT solutions, with a primary focus on SAP services and Data Science training for professionals and corporates.

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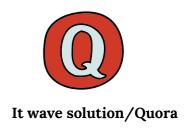






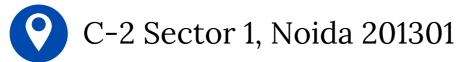


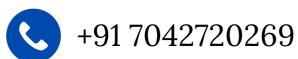




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