

Experience a learning path that resonates with you. Learn full-stack development, Cloud computing, DevOps, Automation, Artificial intelligence and much more ...



Live Classes



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Community

Classroom (Bengaluru) | Online (Global) | On-premise (Corporate)

Section 1: Python Essentials

Unit 1: Python Basics

1. Python Syntax
2. Features of Python
3. Variables
4. Operators
5. Basic input output statements
6. Keywords

Unit 2: Python Data Structures

1. Numbers: int, float, complex
2. Strings
3. List
4. Tuple
5. Dictionary
6. Set

Unit 3: Control-flow statements

1. Decision making with if conditions
2. if-elif-else
3. for loop
4. while loop
5. break and continue
6. for else loop
7. Comprehensions



Unit 4: Functional programming

1. Introduction to functions
2. Namespaces and scope
3. return keyword
4. Parameters and positional arguments
5. lambda function
6. map, filter and reduce

Unit 5: Exception handling

1. Errors and exceptions
2. Handling exceptions with: try, except, else and finally

3. Causing exceptions: raise and assert
4. Create your own exception
5. Logging
6. Logging levels and configuration

Unit 6: File handling

1. Introduction to files
2. File objects and modes
3. Opening and closing files
4. Read and write operations
5. Context manager – with

Unit 7: Working with directories

1. Directories and file path
2. os Unit
3. Making, changing and deleting directories
4. Listing directory and navigating file systems
5. Data compression and decompression with zipfile Unit

Unit 8: Regular expressions

1. Introduction to re Unit
2. Special characters for pattern making
3. re functions and flags
4. String matching and pattern filtering
5. Greedy and non-greedy match
6. Simple character matches
7. Special characters
8. Data extraction

Section 2: Statistics

Unit 1: Descriptive Statistics

1. Various types of data
2. Levels of measurement
3. Categorical variables
4. Numerical variables
5. Frequency distribution

Unit 2: Measure of central tendency

1. Mean, median and mode
2. Measuring skewness
3. Variance
4. Standard deviation
5. Covariance
6. Correlation

Unit 3: Distributions

1. What are distributions?
2. Normal distribution
3. Central limit theorem
4. Standard Error
5. Estimators and estimates
6. Confidence intervals
7. Student's T distribution



Unit 4: Hypothesis testing

1. Understanding Hypothesis Testing
2. The null and the alternative hypothesis
3. Establishing a rejection region
4. p-Value
5. Test for the mean

Unit 6: Inferential statistics

Unit 7: Regression Analysis

Section 3: Databases & Advance Excel

Unit 1: DATABASE INTRODUCTION

1. DATABASE Overview
2. Key concepts of database management
3. CRUD Operations
4. Relational Database Management System
5. RDBMS vs No-SQL (Document DB)

UNIT 2: SQL BASICS

1. Introduction to Databases
2. Introduction to SQL
3. SQL Commands
4. MY SQL workbench installation
5. Comments
6. import and export dataset

UNIT 3: DATA TYPES AND CONSTRAINTS

1. Numeric, Character, date time data type
2. Primary key, Foreign key, Not null
3. Unique, Check, default, Auto increment

UNIT 4: DATABASES AND TABLES (MySQL)

1. Create database
2. Delete database
3. Show and use databases
4. Create table, Rename table
5. Delete table, Delete table records
6. Create new table from existing data types
7. Insert into, Update records
8. Alter table

UNIT 5: SQL JOINS

1. Inner join
2. Outer join
3. Left join
4. Right join

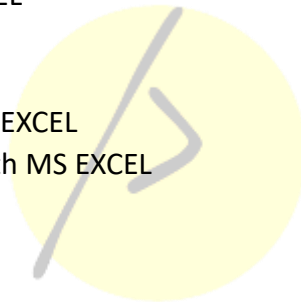
5. Cross join
6. Self join

UNIT 6: SQL COMMANDS AND CLAUSES

6. Select, Select distinct
7. Aliases, Where clause
8. Relational operators, Logical
9. Between, Order by, In
10. Like, Limit, null/not null, group by
11. Having, Sub queries

Unit 7: ADVANCED DATA ANALYSIS WITH MS EXCEL

1. MS Excel core Functions
2. Pivot Table
3. Advanced Functions (VLOOKUP, INDIRECT, etc)
4. Linear Regression with EXCEL
5. Goal Seek Analysis
6. Data Table
7. Solving Data Equation with EXCEL
8. Monte Carlo Simulation with MS EXCEL



Section 4: Data Analytics

Unit 1: Pandas

1. Pandas Introduction
2. Loading Your Data Set
3. Looking at Columns, Rows, and Cells
4. Subsetting Columns
5. Subsetting Rows
6. Mixing It Up
7. Grouped and Aggregated Calculations

Unit 2: Pandas Data Structures

1. Creating Your Own Data
2. Creating a Series
3. Creating a DataFrame
4. The Series
5. The Series Is ndarray-like
6. Boolean Subsetting: Series
7. Operations Are Automatically Aligned and Vectorized (Broadcasting)
8. The DataFrame
9. Boolean Subsetting: DataFrames
10. Operations Are Automatically Aligned and Vectorized (Broadcasting)
11. Making Changes to Series and DataFrames
12. Add Additional Columns
13. Directly Change a Column
14. Dropping Values
15. Exporting and Importing Data

Unit 3: Data Assembly

1. Tidy Data
2. Combining Data Sets
3. Concatenation
4. Adding Rows
5. Adding Columns
6. Concatenation with Different Indices
7. Merging Multiple Data Sets

Unit 4: Missing Data

1. Understanding NaN Value

2. Where Do Missing Values Come From
3. Load Data
4. Merged Data
5. User Input Values
6. Re-indexing o Working with Missing Data
7. Find and Count missing Data
8. Cleaning Missing Data
9. Calculations with Missing Data

Unit 6: Data Munging

1. Data Munging Introduction
2. Data Types
3. Converting Types
4. Converting to String Objects
5. Converting to Numeric Values o Categorical Data
6. Convert to Category
7. Manipulating Categorical Data

Unit 7: Pandas advance operations

1. Pandas Apply
2. Column-wise Operations
3. Row-wise Operations
4. Groupby Operations
5. Aggregation Functions
6. Transform
7. Filter
8. Selecting a Group
9. Iterating Through Groups
10. The datetime Data Type
11. Loading Data That Include Dates
12. Extracting Date Components



Section 5: Data Visualization & EDA

Unit 1: matplotlib and seaborn

1. Data visualization and Exploratory data analysis
2. Introduction to Matplotlib and Seaborn for data visualization
3. Basic plots (scatter, line, bar, histograms, box plots, violin plots)
4. Customizing plots (labels, colors, legends)
5. Multiple plots and subplots
6. Exploratory data analysis (EDA)

Unit 2: Business Intelligence

1. What Is Business Intelligence (BI)?
2. What Bi Is The Core Of Business Decisions?
3. BI Evolution
4. Business Intelligence Vs Business Analytics
5. Data Driven Decisions With Bi Tools
6. The Crisp-Dm Methodology

Unit 3: BI With Tableau: Introduction

1. The Tableau Interface
2. Tableau Workbook, Sheets And Dashboards
3. Filter Shelf, Rows And Columns
4. Dimensions And Measures
5. Distributing And Publishing

Unit 4: Tableau: Connecting to Data Source

1. Connecting To Data File, Database Servers
2. Managing Fields
3. Managing Extracts
4. Saving And Publishing Data Sources
5. Data Prep with Text and Excel Files
6. Join Types with Union
7. Cross-Database Joins
8. Data Blending
9. Connecting To Pdfs

Section 6: Machine Learning

Unit 1: Machine Learning Basics

Unit 2: Supervised Learning

1. Regression and Classification Models
2. Linear Regression Model
3. Data Preprocessing
4. Encoding the Data
5. Logistic Regression Model
6. Evaluation Metrics for Classification model
7. K Nearest Neighbours Model
8. Decision Tree Model
9. Random Forest Model
10. Hyperparameter Tuning
11. Naive Baye's Model
12. Case Study on Kart Model Business & Random Forest
13. K Means and Hierarchical Clustering
14. Hierarchical Clustering
15. Principal Component Analysis (PCA)
16. Support Vector Machine (SVM)

Unit 3: More about Regression

1. Implementation of Different Types of Regression
2. Introduction to Linear Regression and Regularization
3. Implementation Case Study of Linear Regression
4. Introduction to Ridge and Lasso Regression
5. Implementation of Ridge and Lasso Regression
6. Introduction to Logistic Regression and Different Variations
7. Implementation Case Study of Logistic Regression

Unit 4: Unsupervised Learning

1. Time Series Modelling
2. Ensemble Learning
3. Recommender Systems

Unit 5: Feature Engineering

1. Introduction to Features Engineering
2. Transforming Predictors
3. Feature Selection methods

4. Backward elimination technique
5. Feature importance from ML modelling

Unit 6: Time Series Forecasting - Arima

1. What is Time Series?
2. Trend, Seasonality, cyclical and random
3. Autoregressive Model (AR)
4. Moving Average Model (MA)
5. Stationarity of Time Series

Section 7: Deep Learning

UNIT 1: DEEP LEARNING INTRODUCTION

1. Deep Neural Network
2. Machine Learning vs Deep Learning
3. Feature Learning in Deep Networks
4. Applications of Deep Learning Networks

UNIT 2: TENSORFLOW FOUNDATION

1. TensorFlow Installation and setup
2. TensorFlow Structure and Units
3. Hands-On: ML modelling with TensorFlow

UNIT 3: COMPUTER VISION INTRODUCTION

1. Image Basics
2. Convolution Neural Network (CNN)
3. Image Classification with CNN
4. Hands-On: Cat vs Dogs Classification with CNN Network

UNIT 5: NATURAL LANGUAGE PROCESSING (NLP)

1. NLP Introduction
2. Bag of Words Models
3. Word Embedding
4. Language Modeling
5. Hands-On: BERT Algorithm

Section 8: PySpark

Unit 1: Spark API for Python

1. PySpark Introduction
2. Spark Configuration
3. Resilient distributed datasets (RDD)
4. Working with RDDs in PySpark
5. Aggregating Data with Pair RDDs

Section 9: MLOps & Deployment

Unit 1: ML-ops

1. Introduction to ML Ops
2. Deployment of ML Model in the Cloud
3. Code testing
4. Code collaboration
5. intro to git
6. version control, workflows, and repositories
7. collaborating and working with branches
8. Git commands

Unit 2: AWS Cloud for Data Science

1. Introduction of cloud
2. Difference between GCC, Azure, AWS
3. AWS Service (EC2 and S3 service)
4. AWS Service (AMI), AWS Service (RDS)
5. AWS Service (IAM), AWS (Athena service)
6. AWS (EMR), AWS, AWS (Redshift)
7. ML Modelling with AWS Sage Maker

Unit 3: Azure for Data Science

1. Introduction to AZURE ML studio
2. Data Pipeline and ML modelling with Azure

About the trainer

Carrying an experience of over 10 years, I pride myself for experiential learning approach. A training path that consists of visual learning, hands-on learning, project work, periodic assessments and mentorship. With us, you can be sure about getting the knowledge, certificate and placement.



■ **Ram Kumar**

- ✓ **University: UVCE, Bangalore**
- ✓ 100+ Corporate Batches
- ✓ Python Certified Professional
- ✓ Certified Kubernetes Administrator
- ✓ **Last Employer: Amazon, India**
- ✓ 3000+ Students
- ✓ AWS Certified Cloud Architect
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Top clients

