TECHGENX

Data Analytics- Python

Please Note: All below course content will be covered in practical scenarios and regular assignments will be shared. All sessions will be recorded and shared with student for future reference (free of cost). Along with below course, around 100+ programs will be shared for self-practice

1. What is Data Science
2. Introduction to Data Science Python Tool
3. Introduction to Data Science Environment
4. Data For the Course
5. Some Miscellaneous IPython Usage Facts
6. Online iPython Interpreter
7. Different Types of Data Used in Statistical & ML Analysis
8. Different Types of Data Used Programatically
9. Python Data Science Packages To Be Used
10. Create Numpy Arrays
11. Numpy Operations
12. Matrix Arithemetic and Linear Systems
13. Numpy for Basic Vector Arithmetic
14. Numpy for Basic Matrix Arithmetic
15. Broadcasting with Numpy
16. Solve Equations with Numpy
17. Numpy for Statistical Operation
18. Assignment
19. Data Structures in Python
20. Read in CSV Data Using Pandas
21. Read in Excel Data Using Pandas
22. Reading in JSON Data
23. Read in HTML Data
24. Removing NAs/No Values From Our Data
25. Basic Data Handling: Starting with Conditional Data Selection
26. Drop Column/Row
27. Subset and Index Data
28. Basic Data Grouping Based on Qualitative Attributes
29. Crosstabulation
30. Reshaping
31. Pivoting
32. Rank and Sort Data
33. Concatenate

34. Merging and Joining Data Frames
35. Some Theoretical Principles Behind Data Visualization
36. Histograms-Visualize the Distribution of Continuous Numerical Variables
37. Boxplots-Visualize the Distribution of Continuous Numerical Variables
38. Scatter Plot-Visualize the Relationship Between 2 Continuous Variables
39. Barplot
40. Pie Chart
41. Line Chart
42. Some Pointers on Exploring Quantitative Data
43. Explore the Quantitative Data: Descriptive Statistics
44. Grouping & Summarizing Data by Categories
45. Visualize Descriptive Statistics-Boxplots
46. Common Terms Relating to Descriptive Statistics
47. Data Distribution- Normal Distribution
48. Check for Normal Distribution
49. Standard Normal Distribution and Z-scores
50. Confidence Interval-Theory
51. Confidence Interval-Calculation
52. Test the Difference Between Two Groups
53. Test the Difference Between More Than Two Groups
54. Explore the Relationship Between Two Quantitative Variables
55. Correlation Analysis
56. Linear Regression-Theory
57. Linear Regression-Implementation in Python
58. Conditions of Linear Regression
59. Conditions of Linear Regression-Check in Python
60. Polynomial Regression
61. GLM: Generalized Linear Model
62. Logistic Regression
63. Assignment
64. What is Machine Learning (ML) About? Some Theoretical Pointers
65. KMeans-theory
66. KMeans-implementation on the iris data
67. Quantifying KMeans Clustering Performance
68. KMeans Clustering with Real Data
69. How Do We Select the Number of Clusters?
70. Hierarchical Clustering-theory
71. Hierarchical Clustering-practical
72. Principal Component Analysis (PCA)-Theory
73. Principal Component Analysis (PCA)-Practical Implementation
74. Data Preparation for Supervised Learning
75. Pointers on Evaluating the Accuracy of Classification and Regression Modelling

76. Using Logistic Regression as a Classification Model
77. RF-Classification
78. RF-Regression
79. SVM- Linear Classification
80. SVM- Non Linear Classification
81. Support Vector Regression
82. knn-Classification
83. knn-Regression
84. Gradient Boosting-classification
85. Gradient Boosting-regression
86. Voting Classifier
87. Assignment
88. Perceptrons for Binary Classification
89. Getting Started with ANN-binary classification
90. Multi-label classification with MLP
91. Regression with MLP
92. MLP with PCA on a Large Dataset
93. Start With Deep Neural Network (DNN)
94. Start with H20
95. Default H2O Deep Learning Algorithm
96. Specify the Activation Function
97. H2O Deep Learning For Predictions
98. Assignment
99. Read in Data from Online CSV
100. Read Data from a Database
101. Data Imputation