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Applied Data Science Course Curriculum

Chapter: 1 Python Programming

Projects: - 5

Topics Covered

1) Introduction To Python
2) Python Installation
3) Python Syntax (Rules)
4) Keywords And Identifier
5) Variables
6) Introduction to Data Types
7) Numeric Data Types
8) Type Conversion
9) Introduction to String Data Types
10) String Methods
11) Operators
12) Conditional Statements
13) Looping Statements
14) Functions
15) Advanced Functions
16) File Handling
17) Exception Handling
18) Modules and Libraries
19) Random Module
20) Debugging
21) Classes And Objects

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Chapter: 2 Libraries for Machine learning

Projects: - 4

Topics Covered

1) NumPy

    1) Introduction To NumPy
    2) NumPy Basics
    3) NumPy Advanced

2) Pandas

    1) Introduction To Pandas
    2) Pandas Basics
    3) Pandas Advanced

3 Matplotlib

    1) Introduction To Matplotlib
    2) Matplotlib Basics
    3) Matplotlib Advanced

4 SciPy

    1) Introduction to SciPy
    2) Basic SciPy

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Chapter: 3 Exploratory Data Analysis

Projects: - 2

Topics Covered

1) Basic probabilities and statics
2) Basic Linear Algebra
3) Basic Terminology
4) Exploratory Data Analysis

Chapter: 4 Reduction Techniques

Projects: - 2

Topics Covered

1) Introduction to dimension and dimensionality reduction techniques
2) PCA (Principal Component Analysis)
3) TSNE (t-distributed stochastic neighbor embedding)
4) UMAP

Chapter: 5 Machine Learning

Projects: - 7

Topics Covered

1) NLP
    1) Introduction To NLP
    2) Regular expression
    3) BAG OF WORD (BOW)
    4) Text Pre Processing
    5) TF-IDF
    6) WORD2VEC

2) Supervised Learning
    1) Introduction To Supervised and Unsupervised Learning
    2) Introduction To Classification and Regression
    3) Introduction to KNN
    4) KNN In Depth
    5) Introduction to Naïve Bayes

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6) Naïve Bayes in Depth
7) Introduction to logistic Regression
8) logistic Regression in Depth
9) Introduction to linear Regression
10) linear Regression in Depth
11) Introduction to SVM
12) SVM In Depth
13) Introduction to Decision Tree
14) Decision Tree in Depth
15) Introduction to Ensemble Methods
16) Ensemble Methods in Depth

3) Optimization
    1) Introduction to optimization
    2) Optimization In Depth

4) Real World Problems
    3) Introduction to real world problems
    4) Solving Real World Problems

5) Unsupervised Learning
    1) Introduction to Unsupervised learning
    2) Introduction to clustering
    3) Clustering In Depth
    4) Hierarchical clustering Technique
    5) DBSCAN (Density based clustering) Technique

6) Recommender System
    1) Introduction to Recommender System
    2) Content based vs Collaborative Filtering
    3) Similarity Based Algorithms
    4) Matrix Factorization

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7) Feature Engineering
    1) Feature Engineering Technique

Chapter: 6 Deep Learning

Projects: - 5

Topics Covered

1) Introduction To Deep Learning
2) Introduction To Images
3) Introduction To OpenCV Library
4) OpenCV Library in Depth
5) Introduction To CNN 6) CNN In Depth
7) Introduction To RNN
8) RNN In Depth

Chapter: 7 MySQL

Projects: - 1

Topics Covered

1) Introduction To MySQL
2) MySQL Basic