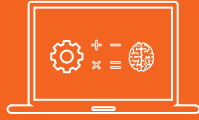


DATA SCIENCE CURRICULUM

6 MONTH CERTIFICATE PROGRAMME



FOUNDATION

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SPECIALIZATION

+

SUPER SPECIALIZATION

+

ADVANCE
MACHINE LEARNING

+

DEEP LEARNING
FOR NLP

Duration : 6 MONTHS



FOUNDATION

- Week 1** Module 1: Data Science Introduction & Use Cases
- Module 2: Python Basics: Basic Syntax, Data Structures
- Week 2** Module 3: Python Basics: Loops, If-elif statements, Functions, Exception Handling
- Module 4: Statistics 1: Measures of central tendency, Population, Sample, Probability Distribution
- Week 3** Module 5: Statistics 1: Normal and Binomial Distribution, Random Variable, Pictorial Representations
- Module 6: Python Advanced: Numpy, Pandas
- Week 4** Module 7: Python Advanced: Data Manipulation, Matplotlib
- Module 8: Exploratory Data Analysis: Data Cleaning, Data Wrangling
- Week 5** Module 9: Exploratory Data Analysis: Data Visualisation
- Module 10: Exploratory Data Analysis: Case Study
- Pre-recorded: R programming, EDA using R

Duration : 5 Weeks



SPECIALIZATION

- Week 6** Module 11: ML Introduction & Use Cases
- Module 12: Statistics 2 - Inferential Statistics
- Week 7** Module 13: Linear Regression
- Module 14: Logistic Regression
- Week 8** Module 15: Decision Trees, Random Forest
- Module 16: Modelling Techniques(PCA, Feature Engineering)
- Week 9** Module 17: KNN, Naive Bayes
- Module 18: Support Vector Machines(SVM)
- Week 10** Module 19: Clustering, K-means
- Module 20: Time Series Modelling

Duration : 10 Weeks



DATA SCIENCE CURRICULUM

SUPER SPECIALIZATION

- Week 11** Module 21: Introduction to Tableau
- Module 22: Data visualisation
-
- Week 12** Module 23: Analytics concepts with Statistics - I
- Module 24: Analytics concepts with Statistics - II
-
- Week 13** Module 25: Analytics concepts using calculated fields
- Module 26: Analytics concepts for integrating dashboards
-
- Week 14** Module 27: Mini project workshop - Visual Analytics
- Module 28: Integration of Tableau with Python

Duration : 14 Weeks



ADVANCE MACHINE LEARNING

- Week 15** Module 29: Market Basket Analysis & Apriori Algorithm
- Module 30: Recommendation System
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- Week 16** Module 31: Recommendation System - Mini Project
- Module 32: Dimensionality Reduction (LDA,SVD)
-
- Week 17** Module 33: Dimensionality Reduction (Matrix optimisation)
- Module 34: Anomaly Detection
-
- Week 18** Module 35: XG Boost
- Module 36: Gradient Boosting Machine(GBM)
-
- Week 19** Module 37: Stochastic Gradient Descent(SGD)
- Module 38: Ensemble Learning - I
-
- Week 20** Module 39: Ensemble Learning - II
- Module 40: Introduction to Neural Networks

Duration : 20 Weeks



DEEP LEARNING FOR NLP

- Week 21** Module 41: Introduction to NLP & Deep Learning
- Module 42: Word Embeddings
-
- Week 22** Module 43: Word window classification
- Module 44: Introduction to Artificial Neural Networks
-
- Week 23** Module 45: Introduction to Tensorflow
- Module 46: Recurrent Neural Networks for Language modelling
-
- Week 24** Module 47: Gated Recurrent Units(GRUs), LSTMs
- Module 48: Recursive Neural network
-
- Week 25** Module 49: Convolutional Neural Networks for sentence classification
- Module 50: Dynamic Memory Networks

Duration : 25 Weeks

