



Data Science and Machine Learning



Overview

Data Science is all about extracting meaningful insights from gigabytes of data. This course will help you learn and understand the concepts of Python, Machine Learning, Data Cleaning and Data Analysis. You will be working on several projects as part of this course that you may add to your CV to get those coveted shortlists for desired roles, once you go abroad.

Highlights:



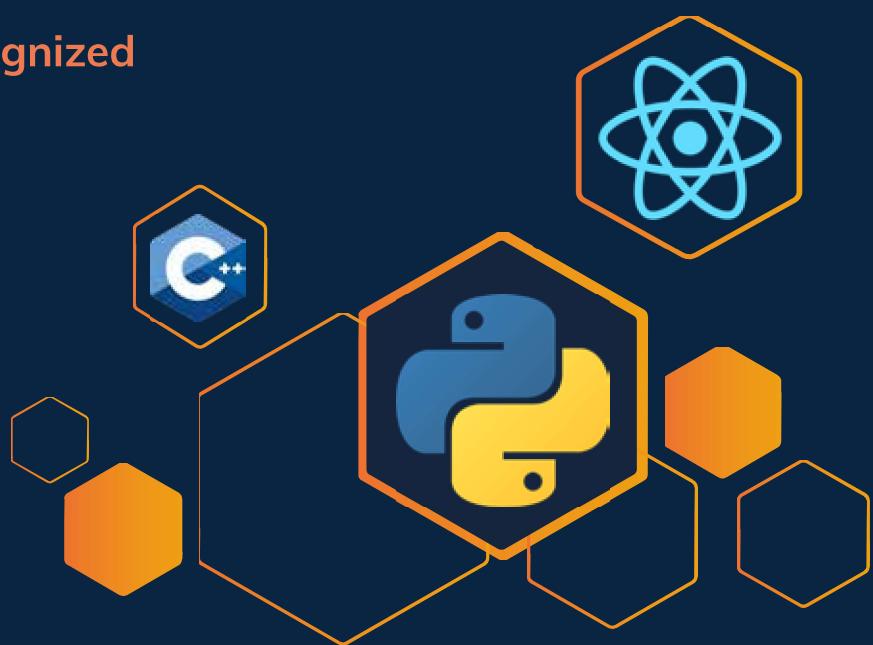
70+ hours of learning content and 55+ assignments



6 months duration and 9 months validity



11 industry-recognized projects



Pre-requisites:

Good knowledge of programming fundamentals and their implementation

Course Outcome:

This course will make you eligible for the job roles like Data Scientist, Data Engineer, Machine Learning Engineer, NLP Scientist, Software Developer/Engineer (AI/ML).

Key Highlights:



Mentor
Support



Course Pause
Feature



Certificate
of Completion



Course
Extension

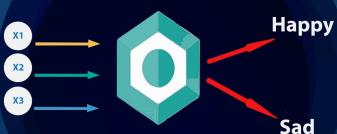
Projects you'll build:



Gradient Descent Implementation

Implement the standard Gradient Descent algorithm for optimisation of a model (**Regression or Neural**).

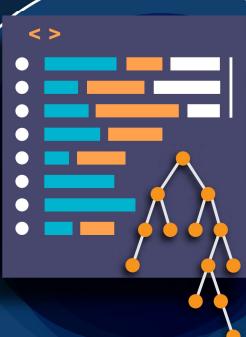
Libraries used: Numpy, Pandas, Matplotlib
Topics: Regression



Logistic Regression Implementation

Implement the standard Logistic Regression model generally used for classifying data into binary classes such as pass/fail, win/lose, alive/dead or healthy/sick.

Libraries used: Numpy, Pandas
Topics: Classification



Decision Tree Implementation

Implement the standard Decision Tree Class used for classifying data into various classes using a tree-like model of decisions and their possible consequences.

Libraries used: Numpy, Pandas, GraphViz, PyDotPlus
Topics: Classification



Text Classification

Build a classifier model using Naive Bayes algorithm to predict the topic of an article present in a newspaper

Libraries used: Numpy, Pandas, NLTK, Matplotlib

Topics: Naive Bayes

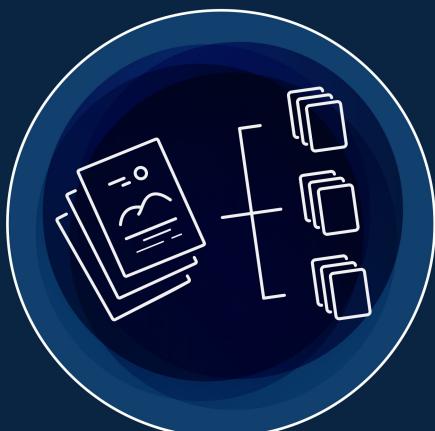


Image Classification (CIFAR-10 Dataset)

Build a classifier for classifying 10,000 images into 10 classes (dog, horse, cat etc) using the CIFAR-10 Dataset.

Libraries used: Numpy, Pandas, Sklearn, Matplotlib

Topics: SVM, PCA



Twitter Sentiment Analysis

Analyse the tweets posted on twitter to predict the sentiment of the tweet i.e. positive, negative or neutral

Libraries used: Numpy, Pandas, NLP, Sklearn
Topics: NLP



Facial Emotion Recognition

Build an advanced model with the ability to predict the facial emotion of a person in an image.

Libraries used: Numpy, Pandas, Keras, TensorFlow

Topics: Neural Networks



Distracted Driver Detection

Build a classification model to predict using a database of images whether a given driver is distracted, ie, texting, on a call, driving safely etc.

Libraries used: Numpy, Pandas, Keras, TensorFlow

Topics: Neural Networks



Text Generation

Build a Neural Network based model to predict what the next word will be in a sequence of words/sentences.

Libraries used: Numpy, Pandas, Keras, TensorFlow

Topics: Neural Networks, RNN, LSTM, GRU

Neural Machine Translation

Build an advanced model for the purpose of translation of phrases and symbols from one language to the other using Artificial Neural Network.

Libraries used: Numpy, Pandas, Keras, TensorFlow

Topics: Neural Networks, RNN, LSTM

Urban Sound Classification

Build a Neural network based model to classify various sounds using their unique spectrogram into classes such as Dog Barking, Sirens, Street Music etc.

Libraries used: Numpy, Pandas, Keras, TensorFlow

Topics: Neural Networks

Image Caption Generation

Build a CNN/LSTM based model to provide a caption to the given image.

Libraries used: Numpy, Pandas, Keras, TensorFlow

Topics: Neural Networks, RNN, LSTM



Case Study on Indian Startups

Detailed analysis of the Indian Startups for interpretation of trends and patterns to facilitate selection of proper city, useful investors, funding type etc for different startups.

Libraries used: Numpy, Pandas, Matplotlib



TMDB API

Finding out the latest information about TV Shows, Movies and the biggest names in the entertainment sector for a marvelous and fun TV/Movie watching experience.

Libraries used: Numpy, Pandas, Matplotlib

Topics: Application Programming Interfaces(APIs)



Instagram Bot

Automation of your Instagram features such as like-unlike, follow-unfollow, and much more with a simple click of a button, achieved using libraries such as BeautifulSoup and Selenium.

Libraries used: Numpy, Pandas, Matplotlib, Selenium

Topics: Web Scraping

Tools and techniques you'll learn:

