



**eict**  
IIT Roorkee



# Applied Data Science and Machine Learning With Python

**Certification Program By The IoT Academy in  
Collaboration with India's Top Institute**



# About IIT Roorkee

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Indian Institute of Technology - Roorkee is among the foremost institutes of national importance in higher technological education and in engineering, basic and applied research. The Institute ranks amongst the best technological institutions in the world and has contributed to all sectors of technological development. It has also been considered a trend-setter in the area of education and research in the field of science, technology, and engineering.

## About E&ICT Academy

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Electronics & ICT Academy IIT Roorkee (E&ICT IITR) is an initiative supported by MeitY, Govt of India. EICT IIT Roorkee delivers FDPs and certification courses in online as well as offline mode. Our courses lay emphasis on bridging the gap between industry demand and academic approach to learning and provide a foundation to build your career in the industries related to the ICT sector. All our courses have projects with real-life problems to give industry insights into learning. We have assimilated academic as well as industry experts to formulate the most effective courses that help professionals, students and faculty to upgrade their skills without disrupting their regular schedule.

## Achievements



In Engineering  
Category of NIRF  
Rankings 2020



In Overall Category of  
NIRF Rankings 2020



Among the IITs in the  
'Citations per Faculty'  
parameter in QS World  
University Rankings, 2021



Best university in India  
by the Times Higher  
Education (THE) World  
University Rankings 2019

# Project List

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## Predicting Adipose tissue area from Waist Circumference



Waist circumference is the best general indicator of stomach instinctive weight, while in ladies midsection to-hip proportion is a helpless marker of AFV and its utilization as a substitute proportion of instinctive fat should be avoided.

## Predicting Mileage for Cars

Using linear regression method, a predictive model can be developed keeping in mind a few important points which includes business and data understanding, data cleaning and preparation methods, model development, evaluation and testing methods.



# Project List

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## Predicting whether the claimant will hire an Attorney

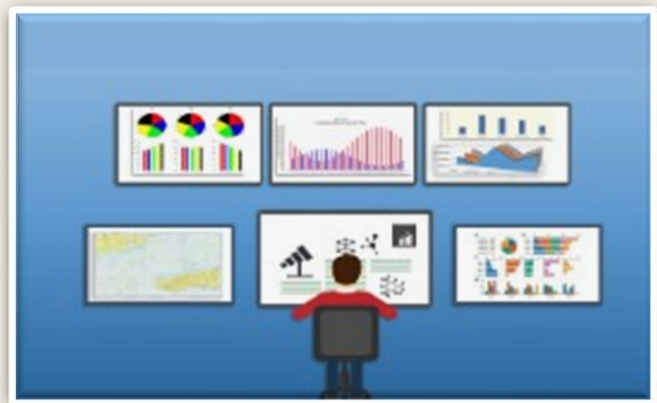


In this project we have to keep few important points highlighted as gathering and understanding all facts of our case, ascertain our legal issue and our desired outcome, studying complete knowledge about the law and finding all legal information and then coming to legal analysis and legal writing of the case

## Hierarchical Clustering

Clustering is quite possibly the most notable strategies in Data Science. From client division to anomaly location, it has a wide

scope of employments, and various procedures that fit distinctive use cases. There are usually two top level method used to determine hierarchical clustering that includes **Agglomerative clustering** and **Divisive clustering**.

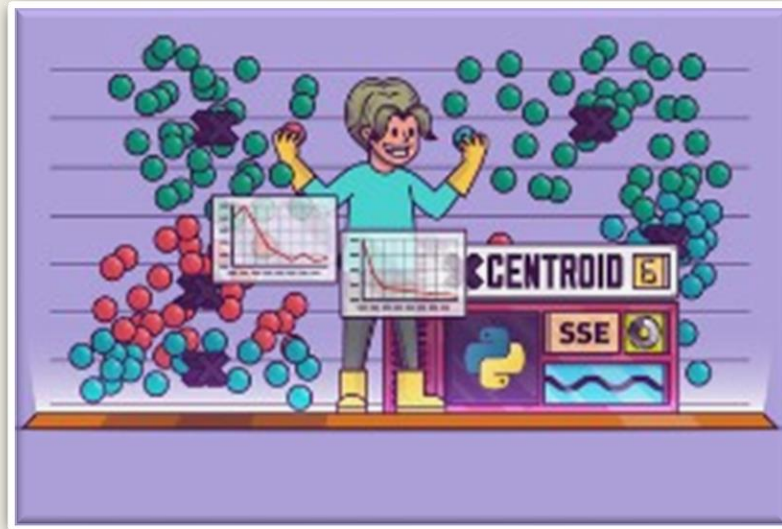


Application includes: US Senator Clustering through Twitter, Charting Evolution through Phylogenetic Trees and Tracking Viruses through Phylogenetic Trees



# Project List

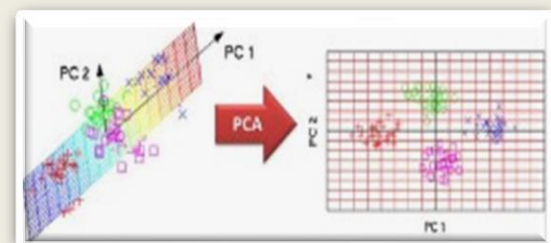
## Non Hierarchical clustering - KMeans on University data



The K-means algorithm is a well-known way to deal with discovering clusters because of its straightforwardness of usage and quick execution. It shows up widely in the AI writing and in most data mining set-ups of devices. Not with standing, its usage straightforwardness veils a calculation whose conduct is unpredictable. Understanding the calculation's conduct is essential to fruitful use and deciphering the outcomes

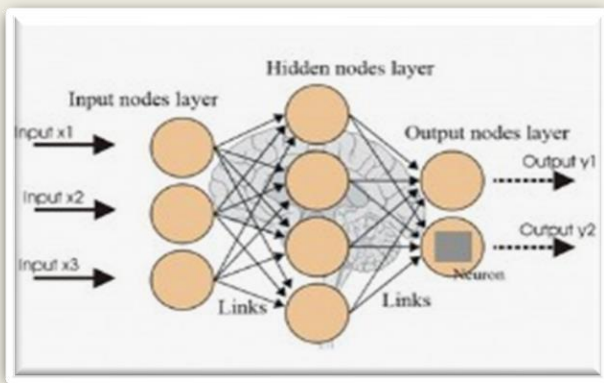
## Dimension Reduction using PCA on University Data

Principal Component Analysis (PCA) is an unaided straight change method that is generally utilized across various fields, most unmistakably for highlight extraction and dimensionality decrease. PCA encourages us to recognize designs in information dependent on the connection between features.



# Project List

## Predicting the strength of concrete using Artificial Neural Network



Compressive strength of concrete has been anticipated utilizing evolutionary artificial neural networks (EANNs) as a mix of artificial neural network (ANN) and developmental pursuit methods, like genetic algorithms (GA). Also, utilizing GA, the quantity of layers and hubs and loads are enhanced in ANN models.

## Extracting Reviews from E-commerce website using Text Mining algorithm

Text mining is the way toward looking at enormous assortments of text and changing over the unstructured content information into organized information for additional investigation like perception and model structure.



The technique used in text mining will include classification models and Exploratory analysis of text data. And approaches used will be Semantic parsing and Bag of Words

# Project List

## Emotion Mining (Text Mining)

Emotion mining is the study of recognizing, examining, and assessing people's sentiments towards various occasions, issues, administrations, or some other interest. One of its specific bearings is text emotion mining, that alludes to breaking down individuals' feelings dependent on their writings. Text emotion mining is an interdisciplinary subject of revenue and has numerous applications including customer care services, prescribing music or motion pictures to PC clients, helping in choosing e-learning materials, filtering aftereffects of searches by emotion, and diagnosing misery or self-destructive propensity.



## Forecasting using Data-driven and Model-Driven Techniques

Forecasting model-driven and information driven technique is a promising method to acknowledge better execution of force framework dependability evaluation. In this part, existing coordinated applications in 'power frameworks and other examination fields are talked about. On that premise, feasible reconciliation approaches are presented.

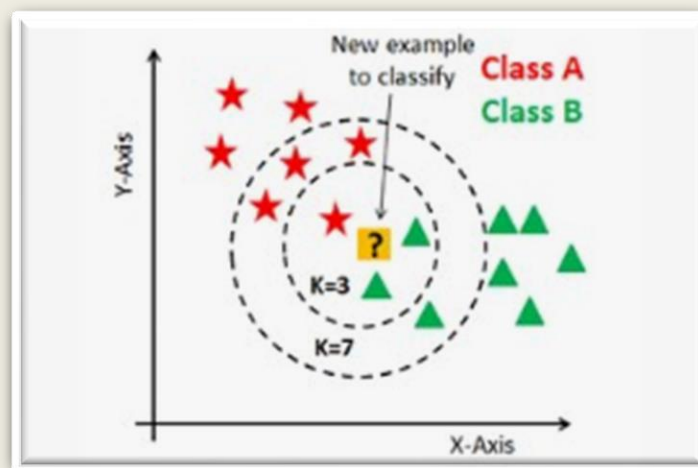


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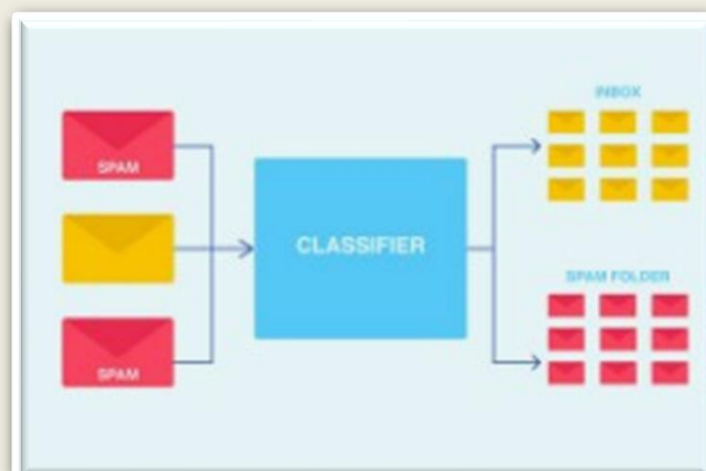
## Extracting Tweets from Tweets using Text Mining Algorithm



## Classification using KNN on Iris Data



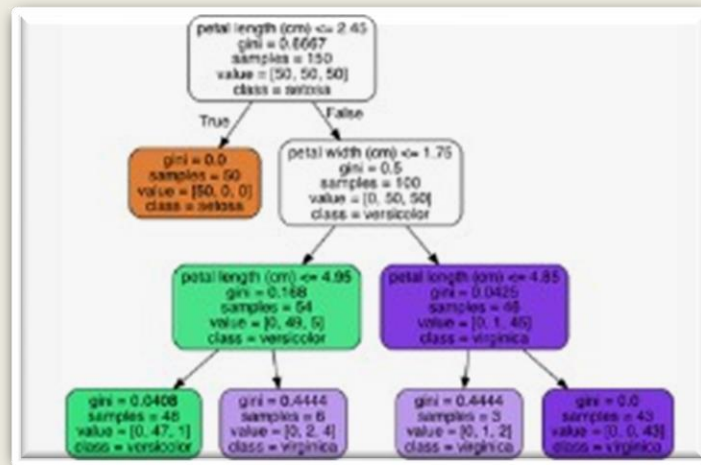
## Classification of HAM/SPAM messages using Naive Bayse



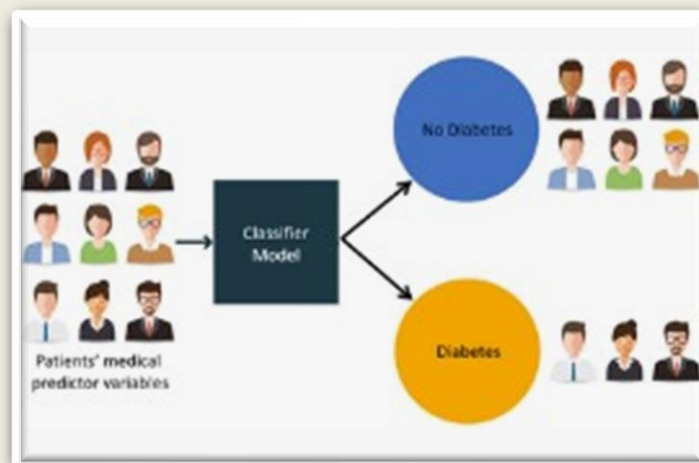


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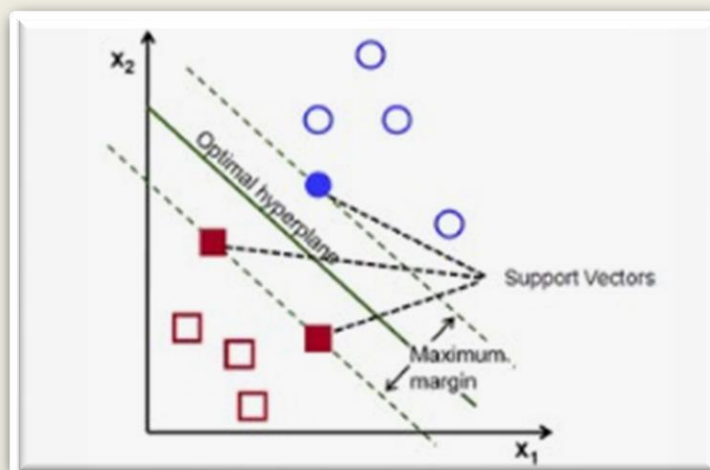
## Classification using Decision Tree using Iris Data



## Classification of Diabetic patients using Random Forest



## Classifying Letters using Support vector Machine (SVM)



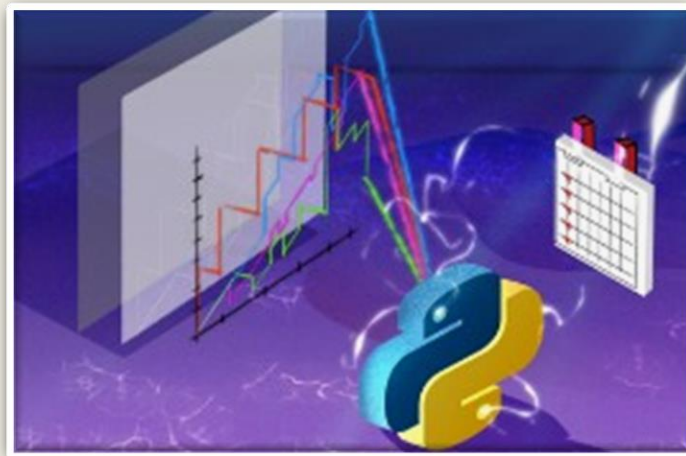
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## Symantec Analysis (Text Mining)



## Analyzing the Trends of COVID-19 With Python



## Analyzing the Naming Trends Using Python



# Project List

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## Performing Analysis on Customer Churn Dataset



## Netflix-Recommendation System



## Python Web Scrapping for Data Science



# Project List

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## Daily" Twitter Data Analysis for a Product



## Predict flight delays



## Natural Language Processing





# Course Details and Fees

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**Please find more information about the program and fees here:**

<https://eict.iitr.ac.in/certificate-course-in-ds-ml-using-python/>

<https://www.theiotacademy.co/certification-in-data-science-and-machine-learning-with-python-in-africa>

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## For Further Information Connect to

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## For Business Inquiries

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