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Learning for Life

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Week 1: (Total video duration= 2.3 hours. You will be required to spend 35 minutes/day along with practicing datasets and quizzes)

Learning Outcomes from the Module:

After learning from this module, learners will be able to understand:

- Clustering, its types and Distance Measures
- Hierarchical Clustering theory and Hands-on
- K-Means Clustering theory and Hands-on
- Silhouette score for K-Means Clustering
- Sil score and wssplot- traintest and overfitting

Mentor Session Duration:	Faculty Name:	No. of videos:
2 hours	Mr. Gurumoorthy	07

Video No.	Video Name	Duration of the video	Topics Covered	Conceptual or Hands On
1	Clustering,Types and Distance measures	25:21	• Clustering is a part of Unsupervised learning. It is the technique of grouping objects, with heterogeneity between groups and homogeneity within the groups. It can follow Agglomerative, Divisive or Partitioning approach.Distance calculations are done to find similarity and dissimilarity in Clustering problems.	Conceptual
2	Hierarchical Clustering	27:35	• A type of Clustering approach where records are sequentially grouped to create clusters, based on distance between records and distance between clusters.	Conceptual
3	Hierarchical Clustering_Hands-On	20:19	• Hands-on exposure to using Hierarchical Clustering in Python	Hands On
4	K-Means Clustering	16:29	• It is a non-hierarchical clustering approach where we specify the number of clusters needed as output lets say, k.	Conceptual
5	Silhouette score for K-means clustering	9:28	• Indirect model evaluation techniques which we can verify once clustering procedures are completed namely the K-means model which is distance based.	Conceptual
6	Sil score and wssplot-traintest and overfitting	07:03	• wss plot/distortion plot helps to know how many clusters are needed as output in K-means clustering	Conceptual
7	K-Means Clustering_Hands-On	29:55	Hands-on exposure to using K-Means Clustering in Python	Hands On