

**SRI G.V.G. VISALAKSHI COLLEGE FOR WOMEN**

Udumalpet – 642 128, Tamil Nadu
Autonomous and Affiliated to Bharathiar University
Accredited at A⁺ Grade by NAAC | DBT Star College
An ISO 9001:2015 Certified Institution
www.gvgvc.ac.in | gvgprincipal@gmail.com | 04252-223019

Department of Information Technology Organizes

Webinar on

Data Mining – Cluster Analysis

09.10.2023

Invitation

**Sri G.V.G Visalakshi College For Women
(Autonomous)**

Accredited at A+ Grade by NAAC (Fourth Cycle)
An ISO 9001:2015 Certified Institution
Udumalpet.

**Department of Information Technology
organizes**

**Webinar
on
Data Mining- Cluster Analysis**

On 09th October 2023
at 2.00 pm



Resource Person:

Dr. SANTHOSH KUMAR
Assistant Professor,
Department of CS and BCA,
PROVIDENCE COLLEGE FOR WOMEN
Coonoor, The Nilgiris

Head of the Department
Mrs. L.SankaraMaheswari

Principal
Dr.N.Rajeswari



SRI G.V.G. VISALAKSHI COLLEGE FOR WOMEN

Udumalpet - 642 128, Tamil Nadu
 Autonomous and Affiliated to Bharathiar University
 Accredited at A+ Grade by NAAC | DBT Star College
 An ISO 9001:2015 Certified Institution
www.gvgvc.ac.in | gvgprincipal@gmail.com | 04252-223019

Report

65

Sri G.V.G. Visalakshi College for Women, Udumalpet

Department of Information Technology
organizes webinar on

Data Mining - Cluster Analysis.

Date : 9/10/2023 Time : 2.00 pm
 platform : google meet (online mode)
 meet link :
 The Department of Information Technology
 organized webinar on Data Mining - Cluster Analysis
 on 09/10/2023 through online mode.

66

Resource Person
 Dr. Santhosh Kumar,
 Assistant Professor,
 Department of CS and BCA,
 Providence College for Women,
 Coonoor, The Nilgiris.
 Phno: 9047804774
 mail id: btksan@gmail.com.

Topic covered:

- * What is Cluster Analysis? and importance of Cluster Analysis
- * Various properties of clustering
- * Clustering method
 - ↳ Partitioning method
 - ↳ Hierarchical method
 - ↳ Density based method
 - ↳ Model based method
 - ↳ Constraint based method
- * Advantages of Cluster Analysis
- * Disadvantage of Cluster Analysis.
- * Real time example with Data Mining tools.

No of Beneficiaries : 24 L.TU B.Sc Information Technology

HOD/IT
Rajeswari P
 Principal
 SRI G.V.G. VISALAKSHI COLLEGE
 FOR WOMEN (AUTONOMOUS)
 VENKATESA HILLS POST,
 UDUMALPET - 642 128

67

S. No	Register Number	Name	Signature
01	21B60327	Abinayaki. P.	Abinayaki. P.
02	21B60328	Ashwini S	Ashwini S
03	21B60329	Dhanveer Banu. A	Dhanveer Banu. A
04	21B60330	Dharsini P	Dharsini P
05	21B60331	Dharsini P	Dharsini P
06	21B60332	Chowp. K	Chowp. K
07	21B60333	Harshanandhini T.	Harshanandhini T.
08	21B60334	Inchira. n	Inchira. n
09	21B60335	K. Jayakumari	K. Jayakumari
10	21B60336	V. Vijayalaxmi	V. Vijayalaxmi
11	21B60337	Kalitharani. M	Kalitharani. M
12	21B60338	Karthika. K	Karthika. K
13	21B60339	Madhumitha M	Madhumitha M
14	21B60340	Nafsa Banu N	Nafsa Banu N
15	21B60341	Nirmalaprakha. I	Nirmalaprakha. I
16	21B60342	Noor Ammaji. A	Noor Ammaji. A
17	21B60343	Safa Shimmi. S	Safa Shimmi. S
18	21B60345	Sarthi Priya S	Sarthi Priya S
19	21B60346	Shruthi. K	Shruthi. K
20	21B60347	M. Subahani	M. Subahani
21	21B60348	C. Subashini	C. Subashini
22	21B60350	Vasudhara. R	Vasudhara. R
23	21B60351	S. Varsha	S. Varsha
24	21B60352	S. Yuvarekha	S. Yuvarekha



SRI G.V.G. VISALAKSHI COLLEGE FOR WOMEN

Udumalpet – 642 128, Tamil Nadu
Autonomous and Affiliated to Bharathiar University
Accredited at A+ Grade by NAAC | DBT Star College
An ISO 9001:2015 Certified Institution

www.gvgvc.ac.in | gvgprincipal@gmail.com | 04252-223019

Browser tabs: Inbox (104) - gvginformationte: X, Inbox (104) - gvginformationte: X, Inbox (1,041) - gvgvcbscit@gn: X, Meet - dvq-gmum-mgj PLAYING

Address bar: <https://meet.google.com/dvq-gmum-mgj?authuser=1&pli=1>

Dr.K.SANTHOSH KUMAR (Presenting)

2:29 PM

Cluster Analysis

- Cluster analysis can be a powerful data-mining tool
- Clustering is an unsupervised machine learning method of identifying and grouping similar data points in larger datasets
- Clustering (sometimes called cluster analysis) is usually used to classify data into structures that are more easily understood and manipulated.
- It's popular strategy, clustering isn't a monolithic term, as there are multiple algorithms that use cluster analysis with different mechanisms.

What is a natural grouping of these objects

What is a natural grouping of these objects

Tools: Play, Share, Edit on PC



SRI G.V.G. VISALAKSHI COLLEGE FOR WOMEN

Udumalpet – 642 128, Tamil Nadu
Autonomous and Affiliated to Bharathiar University
Accredited at A+ Grade by NAAC | DBT Star College
An ISO 9001:2015 Certified Institution
www.gvgvc.ac.in | gvgprincipal@gmail.com | 04252-223019

The screenshot shows a Zoom meeting interface. On the left, a presentation slide titled "Cluster Analysis" is displayed. The slide content includes:

- Cluster Analysis**
- Cluster analysis can be a powerful data-mining tool
- Cluster analysis is an unsupervised machine learning method of identifying and grouping similar data points in larger datasets
- Cluster analysis (sometimes called cluster analysis) is usually used to classify data into structures that are more easily understood and manipulated
- It's popular strategy, clustering isn't a monolithic term, as there are multiple algorithms that use cluster analysis with different mechanisms

Below the text, there is a question: "What is a natural grouping of these objects" followed by an illustration of 10 colorful cartoon figures. The Zoom meeting grid shows 27 participants, and the "People" panel on the right lists the contributors.

This is a duplicate of the screenshot above, showing the same Zoom meeting interface with the "Cluster Analysis" presentation slide and 27 participants.



SRI G.V.G. VISALAKSHI COLLEGE FOR WOMEN


Udumalpet – 642 128, Tamil Nadu
Autonomous and Affiliated to Bharathiar University
Accredited at A+ Grade by NAAC | DBT Star College
An ISO 9001:2015 Certified Institution
www.gvgvc.ac.in | gvsprincipal@gmail.com | 04252-223019

Dr.K.SANTHOSH KUMAR (Presenting)


Cluster analysis can be a powerful data mining tool

- Identifying and grouping similar data points in larger datasets
- Clustering (sometimes called cluster analysis) is usually used to classify data into structures that are more easily understood and manipulated
- It's popular strategy, clustering isn't a monolithic term, as there are multiple algorithms that use cluster analysis with different mechanisms

What is a natural grouping of these objects



What is a natural grouping of these objects



Dr.K.SANTHOSH KUMAR

M Madhu	J JEYASRIV BscIT	I Indhira A	V Varnasri Gvgit	S Subhashini IT	N Nirmala Prabha...	A Abinayaki gvgit
J Jaya Kaviya	Y Yuvarathi.S IT	g gvg_bscit bscit	N Noor Ammaji	A A.Dhanveer Banu IT	H Harshanandhini	s sankari lakshman
S subahari B Sc IT	N Nafila Gvgit	D Dharshini.S BSC IT	S Shimni Bsc it	D Dharshini .p It	S Shruthi k	K Keerthana Kasiraj
V Varsha S	A ASHWINI gvgit	S Sakthi Priya	K Kalioswari	g gvg_bscit bscit		

2:37 PM | dvq-gmum-mgj

Dr.K.SANTHOSH KUMAR (Presenting)

Why clustering isn't (always) the answer

- some important challenges that are in the way you perform the analysis, and which makes it less than ideal for more complex ML and analytics-related tasks
- The biggest issue that comes up with most clustering methods is that while they're great at initially separating your data into subsets
- The best part is that if you're not looking to perform a massive analysis, clustering can give you fast answers about your data

Types of Clusterings

- Partitional Clustering**
A division data objects into non-overlapping subsets (clusters) such that each data object is in exactly one subset
- Hierarchical clustering**
A set of nested clusters organized as a hierarchical tree

Clustering Algorithms

M Madhu	J JEYASRIV BscIT	I Indhira A	V Varnasri Gvgit	S Subhashini IT	N Nirmala Prabh...
A Abinayaki gvgit	J Jaya Kaviya	Y Yuvarathi.S IT	N Noor Ammaji	A A.Dhanveer B...	H Harshanandhini
s sankari lakshm...	S subahari B Sc IT	N Nafila Gvgit	D Dharshini.S BS...	S Shimni Bsc it	D Dharshini .p It
S Shruthi k	K Keerthana Kas...	g gvg_bscit bscit	A ASHWINI gvgit	3 others	g gvg_bscit bscit

People

Add people

Search for people

IN MEETING

Contributors 27

- gvg_bscit bscit (You) Meeting host
- A.Dhanveer Banu IT
- Abinayaki gvgit
- ASHWINI gvgit
- Dharshini .p It
- Dharshini.S BSC IT
- Dr.K.SANTHOSH KUMAR

2:40 PM | dvq-gmum-mgj



SRI G.V.G. VISALAKSHI COLLEGE FOR WOMEN

Udumalpet – 642 128, Tamil Nadu
Autonomous and Affiliated to Bharathiar University
Accredited at A+ Grade by NAAC | DBT Star College
An ISO 9001:2015 Certified Institution
www.gvgvc.ac.in | gvgprincipal@gmail.com | 04252-223019

Dr.K.SANTHOSH KUMAR (Presenting)

Hierarchical Clustering

- A diagram called Dendrogram (A Dendrogram is a tree-like diagram that statistics the sequence of merges or splits)
- Hierarchical clustering is a method of cluster analysis in data mining that creates a hierarchical representation of the clusters in a dataset.

Hierarchical Clustering

- Hierarchical clustering has a number of advantages
- The ability to handle non-convex clusters and clusters of different sizes and densities.
- The ability to handle missing data and noisy data.
- which can be useful for understanding the relationships among the clusters.

Hierarchical Clustering

Agglomerative
This is a "bottom-up" approach: Each observation starts in its own cluster, and as one moves up the hierarchy, pairs of clusters are merged together.

Divisive
This is a "top-down" approach: All observations start in one cluster, and splits are performed recursively as one moves down the hierarchy.

1.1 DBSCAN Density-Based Spatial Clustering

M Madhu	J JEYASRIV BscIT	I Indhira A	V Varnasri Gvgit	S Subhashini IT	N Nirmala Prabh...
A Abinayaki gvgit	J Jaya Kaviya	Y Yuvarathi.S IT	N Noor Ammaji	A A.Dhanveer B...	H Harshanandhini
s sankari lakshm...	S subahari B Sc IT	N Nafila Gvgit	D Dharshini.S BS...	S Shimni Bsc it	D Dharshini .p It
S Shruthi k	K Keerthana Kas...	g gvg_bscit bscit	A ASHWINI gvgit	3 others	g gvg_bscit bscit

People

Add people

Search for people

IN MEETING

Contributors 27

- gvg_bscit bscit (You) Meeting host
- A.Dhanveer Banu IT
- Abinayaki gvgit
- ASHWINI gvgit
- Dharshini .p It
- Dharshini.S BSC IT
- Dr.K.SANTHOSH KUMAR

2:52 PM | dvq-gmum-mgj