



SRM MADURAI

COLLEGE FOR ENGINEERING AND TECHNOLOGY
Approved by AICTE, New Delhi | Affiliated to Anna University, Chennai
Pottapalayam Sivagangai District- 630 612



Department of Information Technology



Organize a

Three Day Virtual Workshop on

Data Science for Healthcare Applications

22.01.2024 to 24.01.2024

Time: 2.00 PM to 4.00 PM

Day1 (22.01.24)

Monday

**The Roles and Applications of
Data-Driven Decision Making in
Health Care**



Dr.E.Poongothai,

Assistant Professor,
Department of Computational Intelligence,
SRM Institute of Science and Technology,
Kattankulathur.

Day 2 (23.01.24)

Tuesday

Data Integration in Healthcare



Dr.N.Sivabalan,

Technical Advisor ,
Consulting and Digital
Transformation services
NTT data , Bangalore.

Day 3 (24.01.24)

Wednesday

**Diabetes Health Care Data Analytics
and Recommendations Systems**



Dr. P. Nagaraj,

Associate Professor,
School of Computing ,
Kalasalingam Academy
of Research and Education,
Krishnankoil .

Registration Link : <https://forms.gle/52w1wNZ5BsqtqxRR6>

Google meet Link : meet.google.com/vuf-srvc-nmq

Coordinators

Dr.S.J.Subhashini - ASP & HoD/IT
Dr.J.Jeyaranjani - AP/IT

Co-Convener

Dr.S.J.Subhashini
ASP & HoD/IT

Convener

Dr.S.Durairaj
PRINCIPAL



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+91 7845 776 181

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Poongothai E (Presenting)

The Living Link for Online World

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Stop presenting

People

Poongothai E

Jeyaranjanism...

Pandi M

Suvika K V

vasanthalaksh...

21AD058 Yana...

R

R.Anguraj PSG...

59 others

NITHYAKALYANI

2:12 PM | vuf-srv-c-nmq

Send a reaction

Poongothai E (Presenting)

Data Science

- ✓ Data science is the study of data to extract meaningful insights for analysis.
- ✓ It is a multidisciplinary approach that combines principles and practices from the fields of mathematics, statistics, artificial intelligence, and computer engineering to analyze large amounts of data.

Are you talking? Your mic is off. X
Pause this notification

2:22 PM | vuf-srv-c-nmq

Poongothai E

Suvika K V

Pandi M

Saranya Appukkutty

21AD058 Yanamala Dil...

R.Anguraj PSG-PTC

Thenmozhi .s

52 others

NITHYAKALYANI

Press Esc to exit full screen

Data Science

- ✓ Data science is the study of data to extract meaningful insights for analysis.
- ✓ It is a multidisciplinary approach that combines principles and practices from the fields of mathematics, statistics, artificial intelligence, and computer engineering to analyze large amounts of data.

2:25 PM | vuf-srvc-nmq

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Introduction to Data Science in Healthcare

Crucial role of Data Science in Healthcare

- ✓ Advancing healthcare technologies,
- ✓ facilitating data-driven insights to improve patient outcomes,
- ✓ Optimize treatment plans
- ✓ Enhance overall healthcare management.
- ✓ From disease diagnosis to resource allocation, data science has the potential to transform the way healthcare is delivered.

2:27 PM | vuf-srvc-nmq

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Poongothai E (Presenting)

2:35 PM | vuf-srv-c-nmq

Participants: Poongothai E, Suvika K V, Rahul Kulkarni, Saranya Appuk..., Thenmozhi .s, R.Anguraj PSG..., Suguna. M SNS..., 65 others, NITHYAKALYANI

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Poongothai E (Presenting)

Disease tracking and prevention

- ✓ Predictive analytics also apply to tracking and preventing the spread of diseases.
- ✓ Data scientists have developed systems that track and model how infectious diseases spread within communities, and these models can help them predict the long-term impact of these illnesses.
- ✓ By predicting the spread of disease, data scientists and health researchers can design interventions to stop, slow or manage the infection at rising levels.

Example:

- ✓ these researchers can predict how widespread an illness may become within a certain time frame by determining the rate of infection and calculating other factors that can either contribute to or inhibit its spread.
- ✓ If a researcher identifies an outbreak of an infectious illness in a community, they can calculate the risk of it spreading to neighboring regions and develop interventions to reduce its impact.

2:46 PM | vuf-srv-c-nmq

People

Search for people

IN MEETING

Contributors 72

- NITHYAKALYANI (You)
- 21AD011_Mani Narasimha
- 21AD012_Brundha
- Aathithya S
- Aishu
- aruna arjun
- Balaji D
- Dharani sivakumar

WhatsApp Meet - vuf-srv-nmq Attendance calculation II IT - G

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Poongothai E (Presenting)

Virtual assistance

- ✓ Data scientists can design applications that provide virtual health care assistance to patients and clinicians.

Example:

- ✓ developed apps that allow patients to input their symptoms to learn what health conditions may cause them.
- ✓ help patients track their medications and symptoms, remind them of upcoming appointments and alert them when they receive test results.
- ✓ help providers by tracking their scheduled appointments and helping them compile patient information to make diagnoses and plan treatments.

2:52 PM | vuf-srv-nmq

Poongothai E (Presenting)

Role of a Data Scientist in Healthcare

- ✓ As a data scientist in the pharmaceutical industry, you have to employ your analytical skills to diagnose illnesses accurately and save lives.
- ✓ The immense amount of data that is sourced from the healthcare sector, from patient information to records stored by government bodies, requires a skilled analyst to manage it all.
- ✓ The Covid-19 pandemic has recently shown how vital data science in healthcare can be.
- ✓ Not only has data science improved the collection and sampling of information but it also demonstrated global patterns in the spread of the infection, predicting the next region where Covid would spread and how government policies could be designed to combat the contagious disease effectively.
- ✓ Regarding national-level healthcare, data scientists could help monitor the spread of the disease within the country and accordingly coordinate with the authorities to send resources to the most impacted areas.

The essential responsibilities of a healthcare data scientist.

1. Management of substantial volumes of data: In other words, you have to take a huge quantity of data, compress, sort, and convert it into smaller packets that are easier for non-technical colleagues to grasp.
2. Preparing reports and dashboards and presenting the findings to the authorities in charge of the overall management of the organization.
3. Management of database: Not only do you have to retrieve data by locating it from the storage provisions, but also keep it secure by guarding it against potential breaches or intrusions.
4. Understanding the role of data science in health care is also a vital responsibility for a healthcare data scientist. It involves modifying collected data to align with the goals and objectives of the organization.

3:35 PM | vuf-srv-nmq

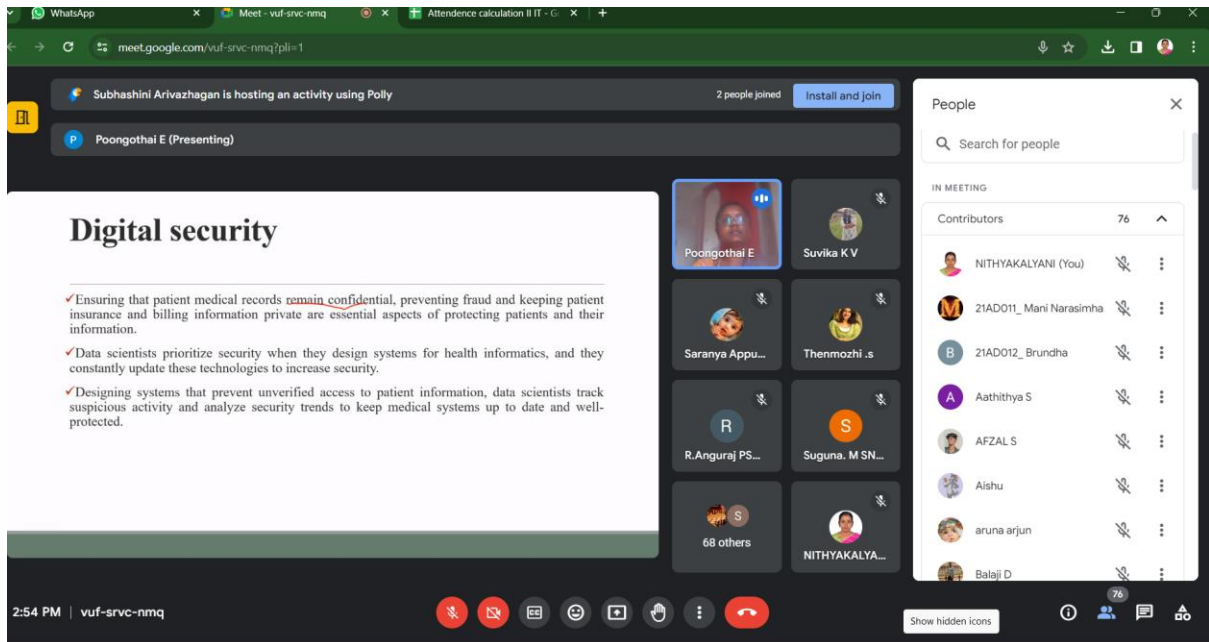
In-call messages

Messages can only be seen by people in the call and are deleted when the call ends

Thohidul Khan 3:34 PM
Excellent Presentation Indeed

Swimpy Pahuja 3:35 PM
Nice presentation
Any attendance?

Send a message



Data Science for the good Healthy Life style

POSITIVE WORDS

- Wow 
- Joy
- Worthy
- Wondrous
- Wonderful
- Willing
- Smile 
- Skillful
- Skilled
- Simple
- Seemly
- Secure
- Perfect 
- Paradise
- Lucky
- Lucid
- Lovely
- Light 
- Honored
- Honorable
- Honest
- Heavenly
- Hearty
- Healthy

WhatsApp Meet - vuf-srv-nmq

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Sivabalan N (Presenting)

Web whiteboard

23h left to save your board. Sign up for free. Share board

Data Integration

meet.google.com is sharing your screen. Stop sharing. Hide

2:06 PM | vuf-srv-nmq

This screenshot shows a Google Meet interface. The main window displays a web whiteboard with the text "Data Integration" written in the center. The whiteboard interface includes a toolbar on the left with various drawing tools and a top bar with a "Share board" button. A notification at the top of the whiteboard indicates "23h left to save your board." On the right side of the screen, there is a grid of participant avatars, including Sivabalan N, Subhashini Ariv..., Jeyaranjanism..., Prof. Mala B A, Thenmozhi .s, Rahul Kulkarni, subashini s, 31 others, and NITHYAKALYANI. The bottom of the screen shows the meeting controls, including a microphone icon, a chat icon, and a red "End" button. The time is 2:06 PM.

Sivabalan N (Presenting)

Web whiteboard

23h left to save your board. Sign up for free. Share board

Diagram illustrating data integration components and flows:

- Top left: $B \rightarrow D$ (circled)
- Left side: A box containing "M", "M", "T" with arrows pointing to the right.
- Center: A large, complex diagram with multiple boxes and arrows, including labels like "API", "ST", "APZ", "vsh", "rel.", and "x2".
- Right side: A box containing ". An", "Asa" with arrows pointing to the right.
- Bottom right: A box containing "rel." with arrows pointing to the right.

2:21 PM | vuf-srv-nmq

This screenshot shows the same Google Meet session, but the whiteboard now contains a complex diagram. The diagram consists of several interconnected boxes and arrows. At the top left, there is a circled box with the text "B -> D". Below it, a box contains the letters "M", "M", and "T" stacked vertically, with arrows pointing to the right. In the center, there is a large, intricate diagram with many arrows and boxes, some of which are labeled "API", "ST", "APZ", "vsh", and "rel.". To the right of this central diagram, there is a box containing ". An" and "Asa" stacked vertically, with arrows pointing to the right. At the bottom right, there is another box containing "rel." with arrows pointing to the right. The rest of the interface, including the participant grid and meeting controls, remains the same as in the previous screenshot. The time is now 2:21 PM.

Sivabalan N (Presenting)

The whiteboard content includes:

- A box containing the text "mmJ".
- A diagram of a box with "API" inside, a circle with "P" on the left, and "XML" on the right.
- A diagram of a box with "JSON" inside, a circle with "P" on the left, and "JSON" on the right.
- A diagram of a box with "VLS" inside, a circle with "P" on the left, and "XML" on the right.

2:25 PM | vuf-srv-c-nmq

Sivabalan N (Presenting)

The whiteboard content includes:

- Microsoft
- Dell
- IBC

2:36 PM | vuf-srv-c-nmq

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Sivabalan N (Presenting)

Sign in

Username
balandemu160

Password
[REDACTED]

Sign in

Automate everything. Empower everyone. Deliver success now.

Increase productivity, lower costs, and reduce time to market with MuleSoft.

Don't have an account? Sign up

NITHYAKALYANI

kavitha I

Sivabalan N

80 others

In-call messages

Messages can only be seen by people in the call and are deleted when the call ends

Sivabalan N 2:45 PM
<https://training.mulesoft.com/site/coursePlayer.do?courseSessionId=ac4377ec-985b-11ea-9f48-0cc47adeb5f8&dispatch=show>

Sivabalan N 2:46 PM
Anypoint Platform Development: Fundamentals

Sivabalan N 2:50 PM
<https://anypoint.mulesoft.com/>

Send a message

2:51 PM | vuf-srvc-nmq

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Sivabalan N (Presenting)

Good afternoon, Siva!

Welcome to the #1 platform for APIs and integrations

Anypoint Code Builder beta
Design, develop, and deploy APIs and integrations.
Get Started

Design Center
Get started creating Mule applications and APIs. Create visual flows, and build, test, and reuse API specifications and fragments.
Start Designing

Management Center

- API Manager
Manage clients, policies, SLAs, traffic, and alerts.
- API Governance
Govern and monitor API conformance.
- Runtime Manager
Deploy, manage, and monitor deployed applications.

NITHYAKALYANI

kavitha I

Sivabalan N

80 others

People

Search for people

IN MEETING

Contributors 84

- NITHYAKALYANI (You)
- 21AD002_Akshaya
- 21AD012_Brundha
- 21AD057 HARI KRISHNA
- Achuma Sasi
- Aishu
- Aninthitha Ganes

2:53 PM | vuf-srvc-nmq

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Dr. P. Nagaraj CSE (Presenting)

SRM - MADURAI - PowerPoint

File Home Insert Draw Design Transitions Animations Slide Show Record Review View Help Intraos ClassPoint Tell me what you want to do

From From Custom Slide Show - Set Up Hide Slide Refresh Recored Use Timings Show Media Controls Use Presenter View Monitors

1 2 3 4 5 6

SRM MADURAI
COLLEGE OF ENGINEERING AND TECHNOLOGY
DEPARTMENT OF INFORMATION TECHNOLOGY
THREE DAYS VIRTUAL WORKSHOP ON
Data Science for Healthcare Applications

Diabetes Healthcare Data Analytics and Recommendation System

Dr. P. Nagaraj
Associate Professor
Department of Computer Science and Engineering
School of Computing
Kalasalingam Academy of Research and Education

24-Jan-24 Dr. P. Nagaraj, ASP/CSE 1

Click to add notes

Slide 1 of 121 English (India) Accessibility Investigate

2:18 PM | vuf-srvc-nmq

Dr. P. Nagaraj CSE
Subhashini Arivazhagan
Rahul Kulkarni
subashini s
Thenmozhi .s
Suguna. M SNSCE
R.Anguraj PSG-PTC joined

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Dr. P. Nagaraj CSE (Presenting)

Artificial Intelligence in Diabetes Management

- AI plays a crucial role in resolving this constraint in the context of telemedicine.
- Machine learning and deep learning has typically obtained promising outcomes in the field of DM detection and diagnosis.
- But the context of ML and DL models is not fully known and is perceived to be a black box.
- Promising outcome in diabetes management can be achieved if the process of feature selection, classification and recommendations are well understood and algorithmically tailored.

24-Jan-24 Dr. P. Nagaraj, ASP/CSE 6

2:30 PM | vuf-srvc-nmq

Dr. P. Nagaraj C...
Subhashini Ariv...
Rahul Kulkarni
Suvitha Navi
subashini s
Thenmozhi .s
Suguna. M SNS...
25 others
NITHYAKALYANI

Dr. P. Nagaraj CSE (Presenting)

Objective III: Data Set Details

S. No.	Feature	Units	Range	Type	Value	Mean	Standard Deviation	Min Value	Max value	Unique Instance	Distinct Instance
1	Pregnancies	-	17	discrete	real valued	3.845052	3.369578	0	17.0000	2	17
2	Glucose	mg/dl	199	discrete	real valued	120.894531	31.972618	0	199.0000	19	136
3	Blood Pressure	mmHg	122	continuous	real valued	69.105469	19.355807	0	122.0000	8	41
4	Skin Thickness	mm	99	discrete	real valued	20.536458	15.952218	0	99.0000	5	51
5	Insulin	mmU/ml	846	discrete	real valued	79.799479	115.244002	0	846.0000	93	186
6	BMI	kg/m ²	67.1	continuous	real valued	31.992578	7.884160	0	67.1000	76	246
7	Diabetes Pedigree Function	-	2.342	continuous	real Valued	0.471876	0.331329	0.078000	2.4200	34	517
8	Age	Year	60	discrete	Nominal Valued	33.240885	11.760232	21.000000	81.0000	5	52
9	Outcome	[0: No, 1: Yes]	1	categorical	Binary Valued	Tested Positive instances-500 Tested Negative instances-268					64

24-Jan-24

3:19 PM | vuf-srv-c-nmq

Dr. P. Nagaraj CSE (Presenting)

3:33 PM | vuf-srv-c-nmq

In-call messages

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Thohidul Khan 2:55PM
Feedback Link Please
Feedback Link Please
Feedback Link Please

Thohidul Khan 2:56PM
Dear Sir, Suddenly I faced the network challenge. Kindly, share the feedback Link once again please

Subhashini Arivazhagan 2:57PM
Pls Wait.

Mohanapriya M 3:08PM
S sir

Ramya R 3:33PM
sir please share the ppts

Send a message