



Date: 30th January 2022

Report on “Machine Learning”

Event Date: 29th January 2022

Time: **10:00 pm to 01:00 pm (3 Hrs)**

Venue: **Online (Google meet)**

No. of Registered Students: 140

Meet code: (MLWORKSHOP1)

Resource Person:**Mr.Santosh Chapaneri completed MS in ECE from the University of Arizona, USA, and BE in EXTC from University of Mumbai, India. He is an expert in the field of Machine Learning and has 13+ years of experience in teaching and 6+ years of experience in industry as a software engineer.**

A. Details:

As a part of Academic Activity of “ITSA” of the INFT Department, the Machine Learning Workshop was arranged on 29th January 2022. The Workshop was a successful event with all due efforts from each ITSA members and also ITSA coordinators .An impactful session was delivered by our resource person Mr.Santosh Chapaneri. Introduction was given by Ms.Nidhi Sawant (Documentation Executive of ITSA for the year 2021-22) and our resource person Mr.Santosh Chapaneri and all other participants were then welcomed for the workshop.

The following topics were covered during the session:

1. Normality Tests.
2. Correlation Tests.
3. Stationary Tests.
4. Parametric Statistical Hypothesis Tests.
5. Nonparametric Statistical Hypothesis Tests .

Our resource person Mr.Santosh Chapaneri is an expert in the field of Machine Learning and has published 45+ articles in various journals and conferences. He has 13+ years of experience in teaching and 6+ years of experience in industry as a software engineer. Currently he is working as Assistant Professor in our own St.Francis Institute of technology in the EXTC department.The Resource Person delivered an excellent session giving insights about the importance of Machine Learning and also helped the TE students to modify their upcoming mini projects.

B. Images of the Machine Learning Workshop:

i)Introduction of the session by Mr.Santosh Chapaneri-

The screenshot shows a Google Meet session titled "Meet - ML Workshop". A red "REC" button is visible in the top left corner. The title bar also displays "Untitled document - Google Doc" and "Inbox (1,605) - amarjitq211@stu...". The main content area shows a presentation slide titled "Statistical Tests for Machine Learning" with a sub-section "t-tests for Machine Learning". The slide includes a video player showing frame 1. To the right is a participant grid with several users, each with a small profile picture and a name label below it. The names include Santosh Chapaneri, NIDHI SAWANT, ITSA SFIT, BHAKTI_201030, MANAV LOHIA, YASH VASANI_1..., 46 others, You, Nitika Rai, VAISHALI JADHAV, VANDANA PATIL, MAYURESH DAL..., DAKSHATA PAN..., MOHAMMAD YAS..., HARSHIT SHETT..., ROHUN JEHNIN..., MUSHAL SHAIK..., GILCHRIST GON..., NASH PIMENTA_..., ANUDNYA PATIL..., MARIAM ABIDI_1..., VIRAL SONI_1911..., ELTON GONSAL..., ANKUR YADAV_1..., 2 others, and You.

This screenshot shows a Google Meet session with a large participant grid. The grid is organized in a 4x6 grid. The names of the participants are listed below their respective icons. The names include Santosh Chapaneri, ITSA SFIT, Santosh Chapaneri, Nitika Rai, BHAKTI_201030, NIDHI SAWANT, MUSHAL SHAIK..., ROHUN JEHNIN..., VAISHALI JADHAV, VANDANA PATIL, MAYURESH DAL..., DAKSHATA PAN..., MOHAMMAD YAS..., HARSHIT SHETT..., Shimronn Jorge, GILCHRIST GON..., NASH PIMENTA_..., ANUDNYA PATIL..., MARIAM ABIDI_1..., VIRAL SONI_1911..., ELTON GONSAL..., ANKUR YADAV_1..., 2 others, and You.

This screenshot shows a Microsoft OneNote session titled "Stat_1 - Microsoft OneNote Online". The main content area contains handwritten notes: "Significance Testing" and "Claim : ". The notes are written in black ink on a white background. To the right is a participant grid with several users, each with a small profile picture and a name label below it. The names include Santosh Chapaneri, BHAKTI_201030, NIDHI SAWANT, Ankz, ITSA SFIT, Nitika Rai, AKSSA JOHN_1..., 59 others, and You.

ii.Mr.Santosh Chapaneri started giving insights about Machine Learning -

REC Santosh Chapaneri is presenting

The OneNote page contains handwritten notes and a graph. The notes include:

- "use test statistic"
- "decision (H_0 or H_1)"
- A graph showing a bell curve with a vertical line at the mean labeled "Rejection region". The area to the right of the line is shaded and labeled "Reject. region". The area to the left is labeled "Non-rejection region". A horizontal arrow points from the "Non-rejection region" towards the center of the graph, labeled "test statistic scored".
- Two conditions for rejecting H_0 :
 - If test stat > critical-value, Reject H_0
 - OR
 - If p-value < significance level, Reject H_0

Participants in the video call are listed on the right:

- Santosh Chapaneri
- Ankz
- ITSA SFIT
- A
- B
- J
- AKSSA JOHN_1...
- BHAKTI_201030
- Y
- AA
- 66 others
- YASH VASANI_1...
- You

Call controls and status: 10:19 AM | ML Workshop, 75 participants, 1 video, 1 screen share.

REC Santosh Chapaneri is presenting

The OneNote page contains handwritten notes and a graph. The notes include:

- "normal \rightarrow Gaussian"
- A graph of a normal distribution curve with the following annotations:
 - Mean $\mu = 10$
 - Standard deviation $\sigma = 10 \text{ minute}$
 - Labels on the x-axis: 10.50, 10.10, 10.00, 10.30, 10.50
 - Labels on the y-axis: 10.00, 10.10, 10.00, 10.30
 - Equation for the PDF: $f_X(x) = \frac{1}{\sqrt{2\pi\sigma^2}} e^{-\frac{(x-\mu)^2}{2\sigma^2}}$
 - Shaded area under the curve between two points on the x-axis is labeled $1 - \alpha$.

Participants in the video call are listed on the right:

- Santosh Chapaneri
- B
- 69 others
- A
- You

In-call messages panel:

- ANKUR YADAV_191125 10:37 AM very low
- VANDANA PATIL 10:37 AM low
- Ankz 10:37 AM low
- SHREE JASWAL 10:37 AM low

Send a message to everyone button.

REC Santosh Chapaneri is presenting

The OneNote page contains handwritten notes and a graph. The notes include:

- $\leq L \rightarrow$ A diagram showing a box divided into three sections: "typical" (width 0.05), "hard" (width 0.025), and "reject H_0 " (width 0.01).
- A graph of a normal distribution curve with the following annotations:
 - Mean μ
 - Standard deviation σ
 - Labels on the x-axis: 99.1%, 95%, 99.1%
 - Labels on the y-axis: 95%, 99.1%
 - Shaded area under the curve is labeled α .

Participants in the video call are listed on the right:

- Santosh Chapaneri
- B
- A
- 72 others
- N
- You

In-call messages panel:

- AUSTIN EMMANUAL NOBLE JOSEPH_191006 10:25 AM 95
- MUSHAL SHAIKH_191113 10:25 AM 95
- SHREE JASWAL 10:25 AM 95%
- VIRAL SONI_191118 10:25 AM 95%

Send a message to everyone button.

iii.Explanation about Normality Test-

REC Santosh Chapaneri is presenting

Table D1. Cumulative areas under the Normal distribution (values of p corresponding to Z_p)

Z_p	0.00	0.01	0.02	0.03	0.04	0.05	0.06	0.07	0.08	0.09
-0.5	0.5398	0.5404	0.5409	0.5416	0.5420	0.5425	0.5429	0.5433	0.5437	0.5441
-0.4	0.5793	0.5802	0.5811	0.5816	0.5821	0.5826	0.5830	0.5834	0.5838	0.5841
-0.3	0.6368	0.6377	0.6386	0.6394	0.6401	0.6408	0.6414	0.6420	0.6426	0.6431
-0.2	0.6930	0.6938	0.6947	0.6954	0.6961	0.6968	0.6974	0.6980	0.6986	0.6991
-0.1	0.7580	0.7588	0.7596	0.7604	0.7611	0.7618	0.7625	0.7632	0.7639	0.7645
0.0	0.8050	0.8054	0.8058	0.8062	0.8066	0.8070	0.8074	0.8078	0.8082	0.8086
0.1	0.8413	0.8418	0.8423	0.8428	0.8433	0.8438	0.8443	0.8448	0.8453	0.8457
0.2	0.8849	0.8853	0.8858	0.8862	0.8866	0.8870	0.8874	0.8878	0.8882	0.8886
0.3	0.9232	0.9236	0.9240	0.9244	0.9248	0.9252	0.9256	0.9260	0.9264	0.9268
0.4	0.9594	0.9597	0.9600	0.9603	0.9606	0.9609	0.9612	0.9615	0.9618	0.9621
0.5	0.9815	0.9818	0.9821	0.9824	0.9827	0.9830	0.9833	0.9836	0.9839	0.9842
0.6	0.9943	0.9946	0.9948	0.9950	0.9952	0.9954	0.9956	0.9958	0.9960	0.9962
0.7	0.9970	0.9971	0.9972	0.9973	0.9974	0.9975	0.9976	0.9977	0.9978	0.9979
0.8	0.9987	0.9988	0.9989	0.9990	0.9991	0.9992	0.9993	0.9994	0.9995	0.9996
0.9	0.9995	0.9996	0.9997	0.9998	0.9999	0.9999	0.9999	0.9999	0.9999	0.9999
1.0	0.9999	0.9999	0.9999	0.9999	0.9999	0.9999	0.9999	0.9999	0.9999	0.9999
1.1	0.9999	0.9999	0.9999	0.9999	0.9999	0.9999	0.9999	0.9999	0.9999	0.9999
1.2	0.9999	0.9999	0.9999	0.9999	0.9999	0.9999	0.9999	0.9999	0.9999	0.9999
1.3	0.9999	0.9999	0.9999	0.9999	0.9999	0.9999	0.9999	0.9999	0.9999	0.9999
1.4	0.9999	0.9999	0.9999	0.9999	0.9999	0.9999	0.9999	0.9999	0.9999	0.9999
1.5	0.9999	0.9999	0.9999	0.9999	0.9999	0.9999	0.9999	0.9999	0.9999	0.9999
1.6	0.9999	0.9999	0.9999	0.9999	0.9999	0.9999	0.9999	0.9999	0.9999	0.9999
1.7	0.9999	0.9999	0.9999	0.9999	0.9999	0.9999	0.9999	0.9999	0.9999	0.9999
1.8	0.9999	0.9999	0.9999	0.9999	0.9999	0.9999	0.9999	0.9999	0.9999	0.9999
1.9	0.9999	0.9999	0.9999	0.9999	0.9999	0.9999	0.9999	0.9999	0.9999	0.9999
2.0	0.9999	0.9999	0.9999	0.9999	0.9999	0.9999	0.9999	0.9999	0.9999	0.9999
2.1	0.9999	0.9999	0.9999	0.9999	0.9999	0.9999	0.9999	0.9999	0.9999	0.9999
2.2	0.9999	0.9999	0.9999	0.9999	0.9999	0.9999	0.9999	0.9999	0.9999	0.9999

REC Santosh Chapaneri is presenting

```
1 data = 5 * np.random.randn(1000) + 50
2 plt.hist(data);
3 # rrand == standard normal distribution with mean 0 and std 1
4 # mu plus/minus sigma, e.g. 50 +/- 5
```

A histogram showing a bell-shaped distribution centered around 50, with x-axis ranging from 30 to 65 and y-axis ranging from 0 to 250.

REC Santosh Chapaneri is presenting

(a) Shapiro-Wilk normality test

test statistic

$$W = \frac{\left(\sum_i a_i x_i \right)^2}{\sum_i (x_i - \bar{x})^2}$$

a_i from table

sort in asc.order

iv.Explanation about Correlation Test -

REC Santosh Chapaneri is presenting

$$S = 1 - \frac{6 \sum d_i^2}{n(n^2 - 1)}$$

Score of 9 students

Sl	phy	Rank	Math	Rank	d_i^2
1	35	3	30	5	4
2	23	5	33	3	4
3	47	1	45	2	1

REC Santosh Chapaneri is presenting

```

+ Code + Text
[16]: 6 if pval > alpha:
       7     print('Sample looks Gaussian (fail to reject H0')
       8 else:
       9     print('Sample does not look Gaussian (reject H0')

Sample looks Gaussian (fail to reject H0)

[x]
- Correlation tests

1 from scipy.stats import spearmanr
2
3 phy = [35, 23, 47, 17, 10, 43, 9, 6, 28]
4 mat = [30, 33, 45, 23, 8, 49, 12, 4, 31]

```

REC Santosh Chapaneri is presenting

	phy	Math
phy	35	30
23	33	
47	45	
17	23	
10	8	
43	41	
9	12	
6	4	
28	31	

v.Explanation about Stationery Test-

REC Santosh Chapaneri is presenting

```
1 # Compare average performance of two algorithms
2
3 mean_A1 = 50
4 std_A1 = 10
5 # A1: [40 to 60]
6
7 mean_A2 = 60
8 std_A2 = 10
9 # A2: [50 to 70]
10
11 results_A1 = np.random.normal(mean_A1, std_A1, 1000)
12 results_A2 = np.random.normal(mean_A2, std_A2, 1000)
13
14 plt.boxplot([results_A1, results_A2]);
15
File "<ipython-input-23-b77786f897a5>", line 14
    ^
SyntaxError: invalid syntax
```

0s completed at 11:58 AM

NIDHI SAWANT... Santosh Chapaneri SHREE JASWAL

ITSA SFIT VANDANA PATIL VIDITA RAVLE...

YASH VASANI_1... 57 others You

REC Santosh Chapaneri is presenting

Paired t-test

Student	Before	After	Dift d _i
1	18	22	-4
2	19	16	3
3	24	29	-5
4	18	20	-2
5	14	18	-4
6	12	18	-6
7	15	19	-4
8	17	16	1
9	12	19	-7
10	20	28	-8

$\bar{d} =$

VIDITA RAVLE... YASH VASANI_1... DHRUV DAVE_1...

Nitika Rai MUSHAL SHAI... PRATHAM MU...

Santosh Chapaneri 56 others You

REC Santosh Chapaneri is presenting

```
10 print("Samples are uncorrelated")
11 else:
12     print('Samples are correlated (reject H0)')

0.02625665025665026 0.4068709202678775
Samples are uncorrelated

1 from scipy.stats import kendalltau
2
3 h1 = np.random.rand(1000) * 20
4 d2 = np.random.rand(1000) * 10
5
6 coef, pval = spearmanr(d1, d2)
7 print(coef, pval)
8
9 if pval > 0.05:
10     print('Samples are uncorrelated')
11 else:
12     print('Samples are correlated (reject H0)')
```

Santosh Chapaneri VANDANA PATIL YASH VASANI_1...

Jenil Jasani ASHER RODRI... MUSHAL SHAI...

Nitika Rai T P 60 others You

Vi.Explanation about Parametric and Nonparametric Test -

REC Santosh Chapaneri is presenting

typical peaked skewed

If data is Gaussian:
use parametric methods

else
use Non-param. methods

SANTOSH CHAPANERI

VANDANA PATIL

SAKSHI NEMA...

BHAKTI_201030

YASH VASANI_1...

VANDANA PATIL

Jenil Jasani

N/A

61 others

You

REC Santosh Chapaneri is presenting

IV Non-parametric Tests

1 Mann-Whitney test

$$X = \{x_1, x_2, \dots, x_m\}$$
$$Y = \{y_1, y_2, \dots, y_n\}$$

SANTOSH CHAPANERI

Nitika Rai

VIDITA RAVLE...

YASH VASANI_1...

MUSHAL SHAI...

PRATHAM MU...

TEJAS KASHID...

56 others

You

REC Santosh Chapaneri is presenting

X and Y have similar performance (no statistical difference)

X and Z are statistically different

NP : Wilcoxon Signed Rank test

test for paired data

non-parametric alternative to paired t-test

```
1 from scipy.stats import wilcoxon
2
3 diff = [10, 20, -10, 25, 60, 10, 15, -5]
4
5 stat, pval = wilcoxon(diff)
6 print(pval)
```

SANTOSH CHAPANERI

Nitika Rai

VIDITA RAVLE...

YASH VASANI_1...

MUSHAL SHAI...

PRATHAM MU...

TEJAS KASHID...

46 others

You

Vii. Vote of thanks-

A screenshot of a video conference interface. At the top, a red 'REC' button is visible. The title bar shows 'Santosh Chapaneri is presenting'. Below the title bar, a presentation slide is displayed in a browser window. The slide contains Python code for a Wilcoxon signed-rank test and its output. The code is as follows:

```
1 from scipy.stats import wilcoxon
2
3 diff = [10, 20, -10, 25, 60, 10, 15, -5, 7, 8, -3, 6]
4
5 stat, pval = wilcoxon(diff)
6 print(stat)
7 print(pval)
8
9 if pval > 0.05:
10     print('Fail to reject H0')
11 else:
12     print('Reject H0')
```

The output of the code is:

```
10.0
0.022699471749157776
Reject H0
```

Below the code, a bullet point states: • Significant improvement is observed.

The video conference interface shows several participants in a grid. Participants include Santosh Chapaneri, NIDHI SAWAN..., ADENGILL RO..., SHREE JASWAL, Nitika Rai, VIDITA RAVLE_..., YASH VASANI_1..., and You. The video player at the bottom indicates it completed at 12:57 PM.

A screenshot of a video conference interface showing a list of participants. The participants are arranged in a grid. Some participants have their names displayed below their profile pictures, while others have initials or colored circles. The participants listed are:

- Ankz
- Santosh Chapaneri
- SHREE JASWAL
- ITSA SFIT
- VANDANA PATIL
- AMARJIT GUPTA_...
- VIDITA RAVLE_191...
- YASH VASANI_191...
- Nitika Rai
- MUSHAL SHAIKH...
- PRATHAM MUCH...
- TEJAS KASHID_2...
- JONATHAN DAVI...
- SARAH FURTADO...
- SONALI SURYAW...
- DAKHSHATA PAN...
- NIYATI JAIN_2012...
- BHAKTI_201030
- CHAITHANYA V_1...
- Ankz
- SHERLY MATHIA...
- ADENGILL ROZ...
- 33 others
- You

The video player at the bottom indicates it completed at 1:02 PM and is for an 'ML Workshop'.

A screenshot of a video conference interface showing a list of participants. The participants are arranged in a grid. Some participants have their names displayed below their profile pictures, while others have initials or colored circles. The participants listed are:

- NIDHI SAWANT...
- Santosh Chapaneri
- Nitika Rai
- ADENGILL ROZ...
- SHREE JASWAL
- SHERLY MATHIA...
- Ankz
- VIDITA RAVLE_1...
- YASH VASANI_19...
- MUSHAL SHAIK...
- PRATHAM MUC...
- TEJAS KASHID_...
- JONATHAN DAV...
- VANDANA PATIL
- SARAH FURTAD...
- SONALI SURYA...
- DAKHSHATA PAN...
- NIYATI JAIN_201...
- BHAKTI_201030
- CHAITHANYA V_...
- Ankz
- PARTH RAMB...

A message overlay in the bottom right corner reads:

VIRAL SONI_191118
There are few announcements after the group pic...so do wait

C. Google Meet Attendance of Students:**i.Meet 1 attendance-**

Meet Attendance 29/01/2022

File Edit View Insert Format Data Tools Extensions Help

Default (Ari...

	A	B	C	D	E
1	Participants	Joined	Left	Duration	
2	Santosh Chapaneri	1/29/2022 10:05	1/29/2022 13:15	03:09:58	
3	SARAH FURTADO_191041	1/29/2022 10:05	1/29/2022 13:15	03:09:58	
4	SHERLY MATHIAS_201255	1/29/2022 10:05	1/29/2022 13:15	03:09:58	
5	Shimronn Jorge	1/29/2022 10:05	1/29/2022 13:15	03:09:58	
6	SHREE JASWAL	1/29/2022 10:05	1/29/2022 13:15	03:09:58	
7	SHREYANSH DOSHI_191035	1/29/2022 10:05	1/29/2022 13:15	03:09:58	
8	SHUBHAM SHETTIGAR_191114	1/29/2022 10:05	1/29/2022 13:15	03:09:58	
9	SONALI SURYAWANSHI	1/29/2022 10:05	1/29/2022 13:15	03:09:58	
10	TEJAS KASHID_201254	1/29/2022 10:05	1/29/2022 13:15	03:09:58	
11	VANDANA PATIL	1/29/2022 10:05	1/29/2022 13:15	03:09:58	
12	VIDITA RAVLE_191102	1/29/2022 10:05	1/29/2022 13:15	03:09:58	
13	VIRAL SONI_191118	1/29/2022 10:05	1/29/2022 13:15	03:09:58	
14	WAHID SHAIKH_201263	1/29/2022 10:05	1/29/2022 13:15	03:09:58	
15	YACHI AGRAWAL_191015	1/29/2022 10:05	1/29/2022 13:15	03:09:58	
16	YASH GIRADKAR_201035	1/29/2022 10:05	1/29/2022 13:15	03:09:58	
17	YASH MAHAJAN_191061	1/29/2022 10:05	1/29/2022 13:15	03:09:58	
18	YASH VASANI_191123	1/29/2022 10:05	1/29/2022 13:15	03:09:58	
19	YOGESH NAYAL_192081	1/29/2022 10:05	1/29/2022 13:15	03:09:58	
20	ANKUR YADAV_191125	1/29/2022 10:05	1/29/2022 13:15	03:09:58	
21	JONATHAN DAVID SARDINHA_191109	1/29/2022 10:05	1/29/2022 13:15	03:09:58	
22	RAHUL BIYA_201012	1/29/2022 10:05	1/29/2022 13:15	03:09:58	
23	UJWAL KATARIYA_201047	1/29/2022 10:05	1/29/2022 13:15	03:09:58	
24	ABIN MATHEW THOMAS_191002	1/29/2022 10:05	1/29/2022 13:15	03:09:58	
25	SHREYA SHETYE_191116	1/29/2022 10:05	1/29/2022 13:15	03:09:58	

Participant		Joined	Left	Duration
26	VEDANT KADAM_201046	1/29/2022 10:05	1/29/2022 13:15	03:09:58
27	KHUSHAL SOLANKI_193088	1/29/2022 10:05	1/29/2022 13:15	03:09:58
28	CHAITHANYA V_191121	1/29/2022 10:05	1/29/2022 13:15	03:09:58
29	LUVINA MARY MONEY RAJAN_191011	1/29/2022 10:05	1/29/2022 13:15	03:09:58
30	PRAJWAL PATIL_191090	1/29/2022 10:05	1/29/2022 13:15	03:09:58
31	SIDDHANT JUDE REBELLO_204045	1/29/2022 10:05	1/29/2022 13:15	03:09:58
32	NIDHI SAWANT_201101	1/29/2022 10:05	1/29/2022 13:15	03:09:58
33	ADENGILL ROZARIO_191105	1/29/2022 10:05	1/29/2022 13:15	03:09:58
34	ADITI PEDNEKAR_191093	1/29/2022 10:05	1/29/2022 13:15	03:09:58
35	ALLAN RODIGUES_191104	1/29/2022 10:05	1/29/2022 13:15	03:09:58
36	AMANKUMAR YADAV_191124	1/29/2022 10:05	1/29/2022 13:15	03:09:58
37	AMARJIT GUPTA_191044	1/29/2022 10:05	1/29/2022 13:15	03:09:58
38	ANKUR YADAV_191125	1/29/2022 10:05	1/29/2022 13:15	03:09:58
39	Ankz	1/29/2022 10:05	1/29/2022 13:15	03:09:58
40	ANUDNYA PATIL_191089	1/29/2022 10:05	1/29/2022 13:15	03:09:58
41	ASHLY JOHN_191051	1/29/2022 10:05	1/29/2022 13:15	03:09:58
42	BHAKTI_201030	1/29/2022 10:05	1/29/2022 13:15	03:09:58
43	CHAITHANYA V_191121	1/29/2022 10:05	1/29/2022 13:15	03:09:58
44	CHRISTINA MANAKKAL_191064	1/29/2022 10:05	1/29/2022 13:15	03:09:58
45	DAKSHATA PANCHAL	1/29/2022 10:05	1/29/2022 13:15	03:09:58
46	DERRICK D'ABREO_201251	1/29/2022 10:05	1/29/2022 13:15	03:09:58
47	ITSA SFIT	1/29/2022 10:05	1/29/2022 13:15	03:09:58
48	JEET VARTAK_191122	1/29/2022 10:05	1/29/2022 13:15	03:09:58
49	JOEL MIRANDA_191068	1/29/2022 10:05	1/29/2022 13:15	03:09:58

50	JONATHAN DAVID SARDINHA_191109	1/29/2022 10:05	1/29/2022 13:15	03:09:58
51	JOSH CHIRIYANKANDATH_201018	1/29/2022 10:05	1/29/2022 13:15	03:09:58
52	JUBIA SUSAN OOMMEN_191003	1/29/2022 10:05	1/29/2022 13:15	03:09:58
53	JULIA HANNA OOMMEN_191004	1/29/2022 10:05	1/29/2022 13:15	03:09:58
54	KARTIKAY RANE_201260	1/29/2022 10:05	1/29/2022 13:15	03:09:58
55	LUVINA MARY MONEY RAJAN_191011	1/29/2022 10:05	1/29/2022 13:15	03:09:58
56	MANASI MADKAR_201056	1/29/2022 10:05	1/29/2022 13:15	03:09:58
57	MARIAM ABIDI_191127	1/29/2022 10:05	1/29/2022 13:15	03:09:58
58	MAYURESH DALVI_201022	1/29/2022 10:05	1/29/2022 13:15	03:09:58
59	MUSHAL SHAIKH_191113	1/29/2022 10:05	1/29/2022 13:15	03:09:58
60	NEEL MISTRY_201077	1/29/2022 10:05	1/29/2022 13:15	03:09:58
61	NIDHI HARIYA_191047	1/29/2022 10:05	1/29/2022 13:15	03:09:58
62	Nitika Rai	1/29/2022 10:05	1/29/2022 13:15	03:09:58
63	NIYATI JAIN_201253	1/29/2022 10:05	1/29/2022 13:15	03:09:58
64	PARTH MAGIYA_181066	1/29/2022 10:05	1/29/2022 13:15	03:09:58
65	PARTH RAMBHIA_201094	1/29/2022 10:05	1/29/2022 13:15	03:09:58
66	PRANEEL MHATRE_201257	1/29/2022 10:05	1/29/2022 13:15	03:09:58
67	PRATHAM MUCHHALA_201074	1/29/2022 10:05	1/29/2022 13:15	03:09:58
68	RHEA PINTO_202104	1/29/2022 10:05	1/29/2022 13:15	03:09:58
69	Santosh Chapaneri	1/29/2022 10:05	1/29/2022 13:15	03:09:58
70	SARAH FURTADO_191041	1/29/2022 10:05	1/29/2022 13:15	03:09:58
71	SHERLY MATHIAS_201255	1/29/2022 10:05	1/29/2022 13:15	03:09:58
72	SHREE JASWAL	1/29/2022 10:05	1/29/2022 13:15	03:09:58
73	SHREYANSH DOSHI_191035	1/29/2022 10:05	1/29/2022 13:15	03:09:58
74	SONALI SURYAWANSHI	1/29/2022 10:05	1/29/2022 13:15	03:09:58
75	TEJAS KASHID_201254	1/29/2022 10:05	1/29/2022 13:15	03:09:58
76	VANDANA PATIL	1/29/2022 10:05	1/29/2022 13:15	03:09:58
77	VIDITA RAVLE_191102	1/29/2022 10:05	1/29/2022 13:15	03:09:58
78	VIRAL SONI_191118	1/29/2022 10:05	1/29/2022 13:15	03:09:58
79	WAHID SHAIKH_201263	1/29/2022 10:05	1/29/2022 13:15	03:09:58
80	YACHI AGRAWAL_191015	1/29/2022 10:05	1/29/2022 13:15	03:09:58
81	YASH GIRADKAR_201035	1/29/2022 10:05	1/29/2022 13:15	03:09:58
82	YASH MAHAJAN_191061	1/29/2022 10:05	1/29/2022 13:15	03:09:58
83	YASH VASANI_191123	1/29/2022 10:05	1/29/2022 13:15	03:09:58
84	YOGESH NAYAL_192081	1/29/2022 10:05	1/29/2022 13:15	03:09:58
85	MEET PATEL_201258	1/29/2022 10:05	1/29/2022 13:15	03:09:58
86	SAKSHI NEMADE_191079	1/29/2022 10:05	1/29/2022 13:15	03:09:58



Meet Attendance 29/01/2022

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1	A	B	C	D	E	F	G
2	Participants	Joined	Left	Duration			
3	NIDHI SAWANT	2/1/2022 16:20:12	1/2022 16:27:5	00:07:46			
4	ADITI PEDNEKA	2/1/2022 16:20:12	1/2022 16:27:5	00:07:46			
5	ALASTIN PORA	2/1/2022 16:20:12	1/2022 16:27:5	00:07:46			
6	ALLAN RODIGU	2/1/2022 16:20:12	1/2022 16:27:5	00:07:46			
7	AMARJIT GUPTA	2/1/2022 16:20:12	1/2022 16:27:5	00:07:46			
8	ANIKET SUVAR	2/1/2022 16:20:12	1/2022 16:27:5	00:07:46			
9	ANKSHITH NAI	2/1/2022 16:20:12	1/2022 16:27:5	00:07:46			
10	ANUDNYA PATIL	2/1/2022 16:20:12	1/2022 16:27:5	00:07:46			
11	ARPAN DHAME	2/1/2022 16:20:12	1/2022 16:27:5	00:07:46			
12	ARYA DOSHI_19	2/1/2022 16:20:12	1/2022 16:27:5	00:07:46			
13	ASHLY JOHN_12	2/1/2022 16:20:12	1/2022 16:27:5	00:07:46			
14	ASHNA KABSU	2/1/2022 16:20:12	1/2022 16:27:5	00:07:46			
15	CHRISTINA MAI	2/1/2022 16:20:12	1/2022 16:27:5	00:07:46			
16	CHRISTINA NOI	2/1/2022 16:20:12	1/2022 16:27:5	00:07:46			
17	DEEP KOTIAN_2	2/1/2022 16:20:12	1/2022 16:27:5	00:07:46			
18	DEEP PARMAR	2/1/2022 16:20:12	1/2022 16:27:5	00:07:46			
19	DERRICK D'ABF	2/1/2022 16:20:12	1/2022 16:27:5	00:07:46			
20	Devesh Rajadhy	2/1/2022 16:20:12	1/2022 16:27:5	00:07:46			
21	ELTON GONSAI	2/1/2022 16:20:12	1/2022 16:27:5	00:07:46			
22	GIDEON HARPA	2/1/2022 16:20:12	1/2022 16:27:5	00:07:46			
23	HARSHKUMAR	2/1/2022 16:20:12	1/2022 16:27:5	00:07:46			
24	HEMANT MISTRI	2/1/2022 16:20:12	1/2022 16:27:5	00:07:46			
25	HITANSHU PAR	2/1/2022 16:20:12	1/2022 16:27:5	00:07:46			
26	JASH SHAH_19	2/1/2022 16:20:12	1/2022 16:27:5	00:07:46			
27	JAY GUPTA_19	2/1/2022 16:20:12	1/2022 16:27:5	00:07:46			
28	JONATHAN DAV	2/1/2022 16:20:12	1/2022 16:27:5	00:07:46			
29	LINCY REBELL	2/1/2022 16:20:12	1/2022 16:27:5	00:07:46			
30	MEET PATEL_2	2/1/2022 16:20:12	1/2022 16:27:5	00:07:46			
31	MOHAMMAD YAS	2/1/2022 16:20:12	1/2022 16:27:5	00:07:46			
32	MUKESH GUPTA	2/1/2022 16:20:12	1/2022 16:27:5	00:07:46			
33	NASH PIMENTA	2/1/2022 16:20:12	1/2022 16:27:5	00:07:46			
34	NIDHI HARIYA_	2/1/2022 16:20:12	1/2022 16:27:5	00:07:46			
35	Nitika Rai	2/1/2022 16:20:12	1/2022 16:27:5	00:07:46			

1	Participants	Joined	Left	Duration
35	Nitika Rai	2/1/2022 16:20:12	1/2022 16:27:5	00:07:46
36	NIYATI AGARWAL	2/1/2022 16:20:12	1/2022 16:27:5	00:07:46
37	PARTH DALI_19	2/1/2022 16:20:12	1/2022 16:27:5	00:07:46
38	PARTH NARVE	2/1/2022 16:20:12	1/2022 16:27:5	00:07:46
39	PRANAV DALVI	2/1/2022 16:20:12	1/2022 16:27:5	00:07:46
40	PRANEEL MHA	2/1/2022 16:20:12	1/2022 16:27:5	00:07:46
41	PRIYANKA PATI	2/1/2022 16:20:12	1/2022 16:27:5	00:07:46
42	RANGEL KOLI_	2/1/2022 16:20:12	1/2022 16:27:5	00:07:46
43	ROGER DSOUZA	2/1/2022 16:20:12	1/2022 16:27:5	00:07:46
44	RUSHI MORE_12	1/2022 16:20:12	1/2022 16:27:5	00:07:46
45	SHIVAM BHOSA	2/1/2022 16:20:12	1/2022 16:27:5	00:07:46
46	SHREYA SHETY	2/1/2022 16:20:12	1/2022 16:27:5	00:07:46
47	SHREYANSH D	2/1/2022 16:20:12	1/2022 16:27:5	00:07:46
48	SHUBHAM SHE	2/1/2022 16:20:12	1/2022 16:27:5	00:07:46
49	SONALI SURYA	2/1/2022 16:20:12	1/2022 16:27:5	00:07:46
50	SRISHTI SHETT	2/1/2022 16:20:12	1/2022 16:27:5	00:07:46
51	SRUSHTI SHINI	2/1/2022 16:20:12	1/2022 16:27:5	00:07:46
52	SUMIT KUMAR_	2/1/2022 16:20:12	1/2022 16:27:5	00:07:46
53	TANISH PARMA	2/1/2022 16:20:12	1/2022 16:27:5	00:07:46
54	TRISHALI RAO_	2/1/2022 16:20:12	1/2022 16:27:5	00:07:46
55	TWINKLE SALV	2/1/2022 16:20:12	1/2022 16:27:5	00:07:46
56	VAISHALI JADH	2/1/2022 16:20:12	1/2022 16:27:5	00:07:46
57	VARUN PATKAR	2/1/2022 16:20:12	1/2022 16:27:5	00:07:46
58	VEDANT PAWAI	2/1/2022 16:20:12	1/2022 16:27:5	00:07:46
59	VIKAS CHAURA	2/1/2022 16:20:12	1/2022 16:27:5	00:07:46
60	VIRAL SONI_19	2/1/2022 16:20:12	1/2022 16:27:5	00:07:46
61	WAHID SHAIKH	2/1/2022 16:20:12	1/2022 16:27:5	00:07:46
62	YACHI AGRAWA	2/1/2022 16:20:12	1/2022 16:27:5	00:07:46
63	ZOHAIR MERCI	2/1/2022 16:20:12	1/2022 16:27:5	00:07:46
64	DYLAN DMELL	2/1/2022 16:27:52	2/1/2022 16:27:5	00:00:00
65	PRANAV BANGI	2/1/2022 16:27:52	1/2022 16:27:5	00:00:00
66				
67				

D. Workshop Feedback:

The response and feedback from the participants about the Machine Learning Workshop was very good and as per the feedback, this workshop about Machine Learning was very interactive and highly beneficial to develop mini projects.

Student Feedback:

Full Name (Type the way	College/University Name	Year	Branch	Clarity on the impact of machine learning	How well were the concepts explained?	How well did the workshop explain the concepts?	How interactive was the workshop?	How helpful was the workshop?	Would you recommend this workshop?	We would love to hear a one line response
MANGESH BHIMRAO Patil	Atharva college of engineering	Second Year (SE)	INFT (Infra)	5	5	5	5	Very helpful	Yes	Yes
Bhakti Bhavesh Gada	ST FRANCIS INSTITUT	Second Year (SE)	INFT (Infra)	4	5	4	5	Very helpful	Yes	Nice workshop.
Allan Simon rodriques	ST FRANCIS INSTITUT	Third Year (TE)	INFT (Infra)	4	4	5	5	Very helpful	Yes	-
Vedang Mhadgut	ST FRANCIS INSTITUT	Second Year (SE)	INFT (Infra)	4	4	4	5	Very helpful	Yes	It was a good and helpful workshop
Mohmmad yasir khan	ST FRANCIS INSTITUT	Third Year (TE)	INFT (Infra)	4	4	3	3	Somewhat helpful	Yes	MI
Manasi Hemant Madkar	ST FRANCIS INSTITUT	Second Year (SE)	INFT (Infra)	4	4	5	3	Very helpful	Yes	Thank you for these amazing workshops
Sonal Suryawanshi	ST FRANCIS INSTITUT Faculty		INFT (Infra)	5	5	5	5	Extremely helpful	Yes	Excellent session
Yogesh Singh Nayal	ST FRANCIS INSTITUT	Third Year (TE)	COMPS (Computer)	4	5	4	3	Very helpful	Yes	Informative
Wahid Shaikh	ST FRANCIS INSTITUT	Third Year (TE)	INFT (Infra)	5	5	5	4	Extremely helpful	Yes	The ml workshop was very well done
Yash giradkar	ST FRANCIS INSTITUT	Second Year (SE)	INFT (Infra)	5	5	5	3	Extremely helpful	Yes	The session was at alpha=1% level.
Bhavika Sunil Shetty	ST FRANCIS INSTITUT	Third Year (TE)	EXTC (Electronics)	5	2	4	3	Somewhat helpful	Yes	Well organized
Kence Vijay Lopes	ST FRANCIS INSTITUT	Third Year (TE)	INFT (Infra)	4	4	5	4	Very helpful	Yes	Thank u for conducting this workshop
Jonathan Sardinha	ST FRANCIS INSTITUT	Third Year (TE)	INFT (Infra)	5	5	4	5	Very helpful	Yes	Very nicely categorized the different types of ML
Vidita Pradeep Ravle Sur	ST FRANCIS INSTITUT	Third Year (TE)	INFT (Infra)	4	4	4	5	Extremely helpful	Yes	Informative session
Shreyansh Manish Doshi	ST FRANCIS INSTITUT	Third Year (TE)	INFT (Infra)	4	4	4	4	Very helpful	Yes	Great workshop
Nidhi Vimal Hariya	ST FRANCIS INSTITUT	Third Year (TE)	INFT (Infra)	3	4	3	4	Somewhat helpful	Yes	The session was very informative and
Jay	ST FRANCIS INSTITUT	Third Year (TE)	INFT (Infra)	3	3	4	3	Very helpful	Yes	No
Loukik Raina	FCRIT	Third Year (TE)	COMPS (Computer)	5	5	5	5	Very helpful	Yes	Awesome
Vedant Vilas Kadam	ST FRANCIS INSTITUT	Second Year (SE)	INFT (Infra)	4	4	4	4	Very helpful	Yes	-
Joshua Torlikonda	ST FRANCIS INSTITUT	Second Year (SE)	COMPS (Computer)	5	5	5	5	Extremely helpful	Yes	Yes
Dylan Butelho	ST FRANCIS INSTITUT	Third Year (TE)	INFT (Infra)	4	4	4	4	Very helpful	Yes	it was a good session
Joel Miranda	ST FRANCIS INSTITUT	Third Year (TE)	INFT (Infra)	5	5	5	5	Very helpful	Yes	Superb
Shimronn Jorge	St xaviers college	Sy Bsc	Mathematical	5	5	5	5	Very helpful	Yes	Nice
Darshit Rupapara	ST FRANCIS INSTITUT	Third Year (TE)	INFT (Infra)	4	4	4	4	Very helpful	Yes	The concepts were taught in a very si

Resource Person Feedback:

[We have not yet received the feedback from the resource authority]

E. Results/ Impact Analysis:

Quiz Question paper:

Clarity on the impact of explanation provided along with experiences shared: *



How well were the concepts and examples covered? *



How well did the workshop reach up to your expectations? *



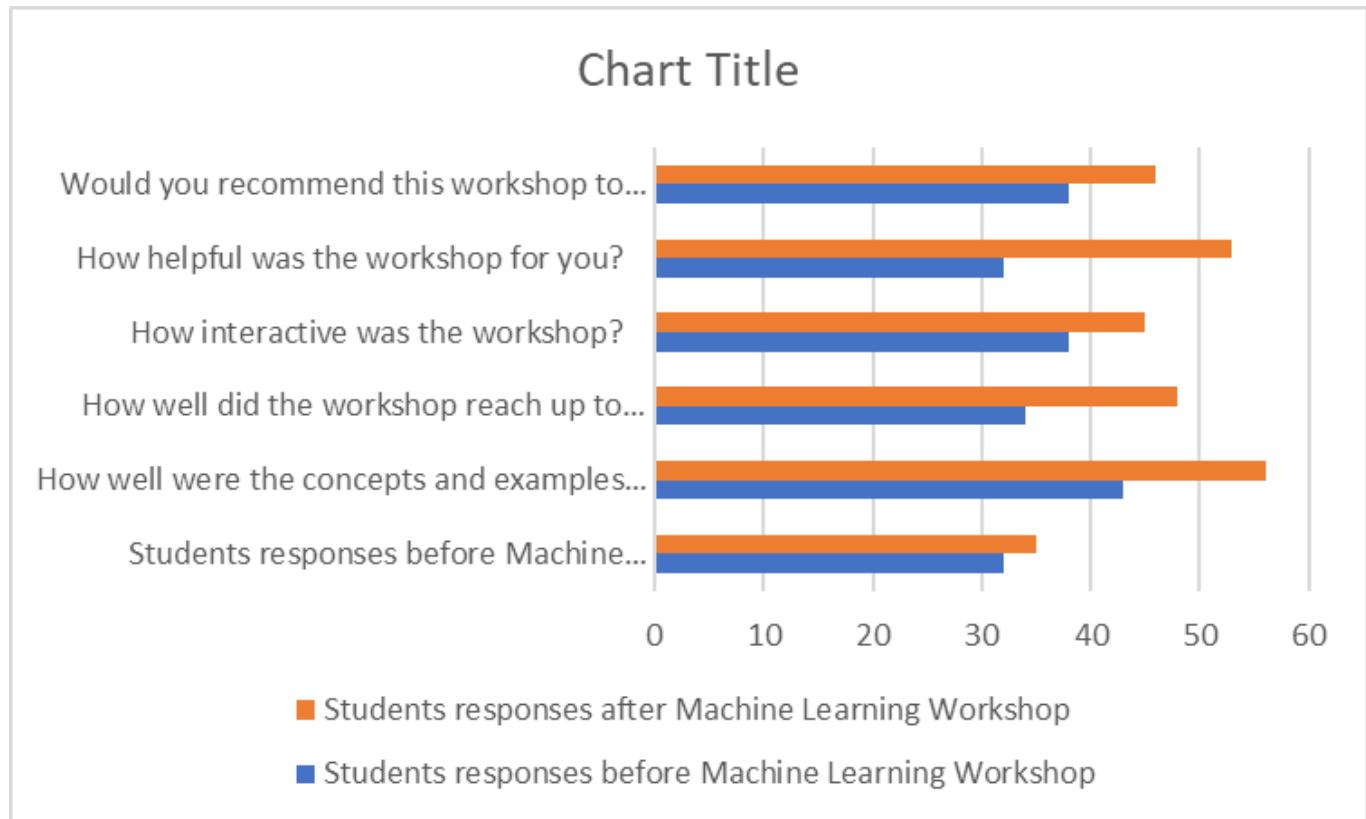
How interactive was the workshop? *



How helpful was the workshop for you? *

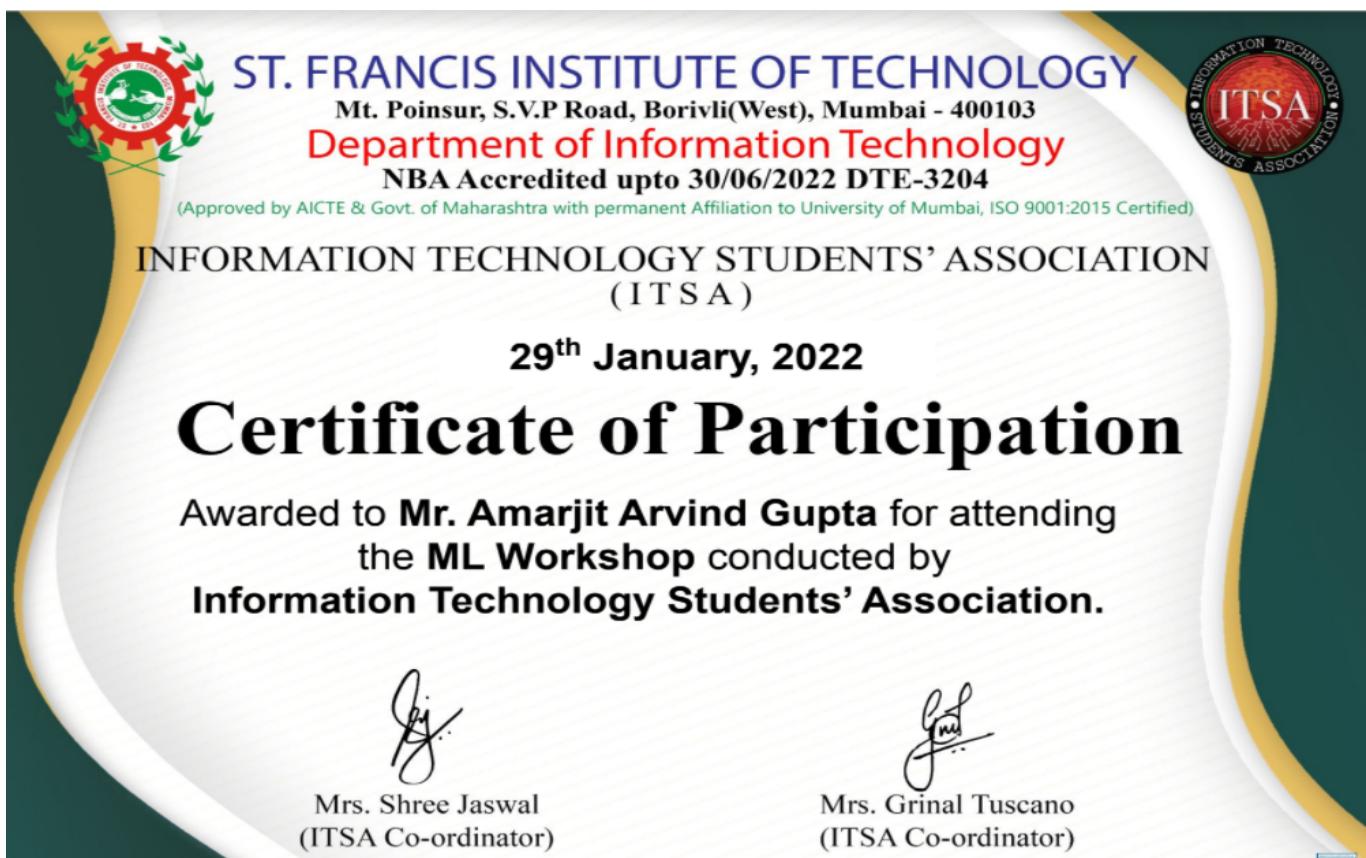
- Extremely helpful
- Very helpful
- Somewhat helpful
- Not so helpful

Result Analysis:



It has been observed that 80% of students were happy with the workshop and answered a greater number of the questions after attending the workshop which shows that students learned about Machine Learning efficiently.

F. Certificate:



E.PR Messages and posters made:

Registration Form: ML Workshop
with Mr. Santosh Chapaneri, 29th January, 2022 **24** 12:00 pm onwards
Google Meet [bit.ly](#)

Hola! ITSA is back again

Presenting a Machine Learning Workshop by ITSA

Hosted by *Machine Learning Expert and AI/ML Trainer, Mr. Santosh Chapaneri*

Agenda for the Workshop

- Normality Tests
- Correlation Tests
- Stationary Tests
- Parametric Statistical Hypothesis Tests
- Non-Parametric Statistical Hypothesis Tests

Compulsory For T.E. IT Students

This event is Open For All

Date: 29th January, 2022 **Day: Saturday**

Time: 10 a.m. to 1 p.m. **Conducted on Google Meet**

Registration Link - https://bit.ly/MLworkshop_Form



ITSA introduces you to
it's workshop on...

MACHINE LEARNING

BY MR SANTOSH CHAPANERI

Machine Learning Expert &
AI/ML Trainer

AGENDA OF THE WORKSHOP

- NORMALITY TESTS
- CORRELATION TESTS
- STATIONARY TESTS
- PARAMETRIC STATISTICAL HYPOTHESIS TESTS
- NONPARAMETRIC STATISTICAL HYPOTHESIS TESTS

29TH JANUARY, 2022

10AM -1PM

GOOGLE MEET

Compulsory for TE IT Students

Mrs. Shree Jaswal

Mrs. Grinal Tuscano

Dr.Joanne Gomes

(ITSA Coordinator)

(ITSA Coordinator)

(HOD-IT)