

**ISTE approved – ONE Week Online STTP on
APPLIED STATISTICS AND SOFTWARE TOOLS
FOR DATA SCIENCE**

Organized and conducted by

**Department of Computer Engineering,
Thadomal Shahani Engineering College**

Date: 3rd July 2023 to 8th July 2023

Convener: Dr. G. T. Thampi

Co-convener: Dr. Tanuja Sarode

Coordinators: 1. Mr. Vaibhav Ambhire

2. Ms. Sonali Jadhav



भारतीय तकनीकी शिक्षा संस्था

INDIAN SOCIETY FOR TECHNICAL EDUCATION

(Under the Societies' Registration Act XXI of 1860)

Prof. Vaidya Vijay Dattatray

Executive Secretary

ISTE/Proceedings/Online STTP-SF-MAH-028/2023-24

May 25, 2023

Proceedings of Executive Secretary, ISTE

Sub. : Sanction to conduct full time Short-term Training Programme on Self-financing basis for the financial year 2023-2024.

Sanction is hereby accorded to the following institution for the conduct of the Online/SF-STTP/FDP programme indicated below:

Name of Institution	:	Thadomal Shahani Engineering College Mumbai – 400 050
Topic	:	Applied Statistics & Software Tools for Data Science
Name & Address of Coordinators	:	Mrs. Sonali Jadhav Mr. Vaibhav Ambhire Asst. Prof. Asst. Prof.
Duration	:	One Week (Minimum 05 Working Days)
Proposed dates	:	03-07-2023 to 08-07-2023

Terms and Conditions

The institution offering the Programmes should be approved by AICTE and must be Institutional Member of ISTE. Institutions having ISTE Faculty Chapter and Students Chapter shall be preferred. There will be no financial commitment on the part of ISTE on account of this programme. The fee of one **proposal is Rs. 1180/- (Incl. 18% GST)** paid by DD in favour of ISTE New Delhi along with proposal or by NEFT/RTGS in the following ISTE Account **(Name of Account: ISTE Membership Fee, Account No: 6707247614 Bank: Indian Bank IFSC Code: IDIB000M089 Branch: Mehrauli Road New Delhi).**

- 1 This will be a online program of the duration of 1 week/2 weeks/4 weeks.
- 2 The registration fee of the participants may be fixed by the host institution.
- 3 ISTE Life membership is necessary for participants to attend SF programmes. However, If any participant is not having life membership he/she may take the membership of ISTE before the starting of the course and apply by paying the fee to the course coordinator at the spot before the commencement of the programme. The Life Membership fee is Rs. 3540/- (Incl. 18% GST) to be paid by DD in favour of ISTE New Delhi or by NEFT/RTGS as per above Account details.

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- 4 The final report as mentioned in these guidelines is to be submitted online to ISTE within 15 days after completion of the Programme.
- 5 The institute should ensure that the Resource Persons should be well known personalities having thorough knowledge and he/she should be from an Institute or Industry.
- 6 **Since it is an Online program, e-Certificate to ISTE Life Members will be issued by ISTE from this office. Operational and processing fee of Rs. 100 +18% GST (Total Rs. 118/-) will be charged per participant. Institute conducting the program will collect the fee from participants and will send it to ISTE by DD or NEFT/RTGS with list of participants with their ISTE Life Membership Number. Institute conducting on line program will not issue Certificates with ISTE logo to Participants. Course coordinator is requested to ensure the same and attach payment proof or UTR number.**
- 7 **At least one test at the end is to be conducted to judge the performance of participants. Institute can conduct more test, if they desire. Attendance and successful completion of Test conducted is mandatory to receive certification by ISTE. Co Ordinator should ensure this while submitting list of participants to ISTE.**
- 8 **The Digital e-certificates to eligible participants will be sent by ISTE Delhi through organizing Institute.** The certificate contains the ISTE logo at the top. The digitally signed e-certificates will bear the Signatures of Executive Secretary, ISTE.
- 9 Above terms and conditions are applicable to Online Programs only.



Executive Secretary

To,

Dr. G.T. Thampi
Principal
Thadomal Shahani Engineering College
Nari Gurshani Marg, Off. Linking Road
TPS III, Bandra (W), Mumbai – 400 050
Maharashtra State

Copy to:

Mr. Vaibhav Ambhire
Coordinator
Thadomal Shahani Engineering College
Nari Gurshani Marg, Off. Linking Road
TPS III, Bandra (W), Mumbai – 400 050
Maharashtra State

Guidelines to be followed for Online Programme

Immediately after approval from ISTE

- Link of FDP program brochure or template.
- Link of registration for faculties.
- Details of the program, day-wise
- List of Resource persons
- Topic and the outcome expected post the event

Before one of the session:-

- Response sheet of participants received for considering total number of participant.

From Day 1 to till end every day before and after session (day)

- Link of invitation of every session with password for joining.
- Attendance in respective online tools of attendee in screen shot or other format.
- Output response/ any test conducted every day or end of the FDP.
- Final results
- Response sheet of feedback of attendees on last day

Post the conduct of the event, the institute will submit the **outcomes achieved from the program.**

SHARE A GOOGLE DRIVE LINK with ISTE IN WHICH INSTITUTE WILL UPDATE THE THINGS ON DAILY BASIS.

Metamorphosis into a center of excellence in higher education and enterprise computing to nurture and facilitate the learners who ought to be the creams of society in terms of their irresistible ambition to be part of entities inventing breakthrough technologies to further the cause of mankind through emerging technologies

Department Vision

Registration Link

<https://forms.gle/iYg692ZELBg3F9zt6>

Registration Fees

1000/-

Last Date to Register

1st July 2023

Coordinators

1. Mr. Vaibhav Ambhire
Assistant Professor



7276640964



vaibhav.ambhire@thadomal.org

2. Ms. Sonali Jadhav
Assistant Professor



8652525206



sonali.jadhav@thadomal.org



Thadomal Shahani Engineering College



Organizes
ISTE approved – ONE Week ONLINE STTP
on

APPLIED STATISTICS AND SOFTWARE TOOLS
FOR DATA SCIENCE

3rd July to 8th July 2023



Convener

Dr. G. T. Thampi
Principal, TSEC

Co – Convener

Dr. Tanuja Sarode
Head, Department of
Computer Engineering, TSEC

Under the
Department of
Computer Engineering

Resource Persons

1. Ms. Uttara Athawale
(Prof. of Mathematics, Statistics and Computer Graphics)

2. Dr. Archana Patankar
(Professor, TSEC)

3. Dr. Bhushan Jadhav
(Assistant Professor, TSEC)

4. Dr. Darshan Ingle
(Assistant Professor, TSEC)

5. Mr. Hriday Purohit
(Ex-Data Science Intern @H2O.ai)

6. Ms. Vijaya Padmadas
(Assistant Professor, TSEC)

- Introduction to Data Science
- **Data Exploration:** Descriptive Statistics, Univariate and Multivariate Exploration
- Inferential Statistics: Various forms of distribution
- Test Hypothesis, Central Limit Theorem
- Type I, Type II Errors, ANOVA
- Methodology and Data Visualization: Overview of Model Building, Cross Validation, Univariate and Multivariate Visualization
- Anomaly Detection: Outlier and Outlier Detection Methods, SMOTE
- Time Series Forecasting: Smoothing Methods, Time Series Analysis, Performance Evaluation
- Applications of Data Science: Predictive Modeling, Time Series Forecasting

Department Mission

Course Objectives

- To understand the data science techniques for different applications
- To apply different statistical models in the domain of data science
- To understand data preparation, exploration and visualization techniques.
- To model and evaluate different supervised/unsupervised learning techniques

1. Building state of art laboratories with the help of internal accruals / government funding / industry funding
2. Collaborative research initiative with premier research organizations in the country
3. Subjecting and initiating learners to entrepreneurship training program and nascent technologies which shall be beyond curriculum
4. Developing instructional content leveraging new findings of cognitive load theories and visual learning
5. Initiating public private partnership to setup startup ventures to help learners evolve as entrepreneurs in ICT
6. Extensively promote participation in application building competition getting organized externally and internally to enable learner to apply theoretical understanding in real time functional area



Certificate

- Participation **E-certificate** will be issued by TSEC after completion of the required criteria.
- Participant with valid ISTE membership will get an **E-certificate** from ISTE.



THADOMAL SHAHANI ENGINEERING COLLEGE

Department of Computer Engineering

ISTE Approved Online STTP on “APPLIED STATISTICS AND SOFTWARE TOOLS FOR DATA SCIENCE” 3 rd July to 8 th July, 2023			
Date	Time	Topic	Resource Person
DAY-1			
3 rd July 2023, Monday	10:00 am to 10:30 am	Inauguration	
	10:30 am to 12:30 pm	<ul style="list-style-type: none"> • Introduction to Data Science • Data Science Process • Motivation to use Data Science Technique • Overview of Data Preparation 	Ms. Vijaya Padmadas
	12:30 pm to 1:30 pm	Lunch Break	
	1:30 pm to 4:30 pm	Descriptive Statistic: Univariate Exploration Multivariate Exploration	Dr. Archana Patankar
DAY-2			
4 th July 2023, Tuesday	10:00 am to 12:30 pm	Inferential Statistics Overview of Various forms of distributions: Normal, Poisson, Test Hypothesis.	Ms. Uttara Athawale
	12:30 pm to 1:30 pm	Lunch Break	
	1:30 pm to 4:30 pm	Central limit theorem, Confidence Interval, Z-test, t-test, Type-I, Type-II Errors, ANOVA	Ms. Uttara Athawale
DAY-3			
5 th July 2023, Wednesday	10:00 am to 12:30 pm	Methodology: Overview of model building, Cross Validation, K-fold cross validation, leave-1 out, Bootstrapping	Dr. Bhushan Jadhav
	12:30 pm to 1:30 pm	Lunch Break	
	1:30 pm to 4:30 pm	Data Visualization: <ul style="list-style-type: none"> • Univariate Visualization: Histogram, Quartile, Distribution Chart • Multivariate Visualization: Scatter Plot, Scatter Matrix, Bubble chart, Density Chart • Roadmap for Data Exploration 	Dr. Bhushan Jadhav

THADOMAL SHAHANI ENGINEERING COLLEGE

Department of Computer Engineering

DAY-4			
6 th July 2023, Thursday	10:00 am to 12:30 pm	Anomaly Detection: Outliers, Causes of Outliers, Anomaly detection techniques, Outlier Detection using Statistics	Mr. Hriday Purohit
	12:30 pm to 1:30 pm	Lunch Break	
	1:30 pm to 4:30 pm	Anomaly Detection: Outlier Detection using Distance based method, Outlier detection using density- based methods, SMOTE	Mr. Hriday Purohit
DAY-5			
7 th July 2023, Friday	10:00 am to 12:30 pm	Applications of Data Science : Predictive Modeling	Dr. Darshan Ingle
	12:30 pm to 1:30 pm	Lunch Break	
	1:30 pm to 4:30 pm	Applications of Data Science : Time series forecasting	Dr. Darshan Ingle
Day-6			
8 th July 2023, Saturday	10:00 am to 12:30 pm	Time Series Forecasting : Smoothing Methods Performance Evaluation	Ms. Uttara Athawale
	1:15 pm to 2:15 pm	Evaluation Test	
	2:30 pm to 3:00 pm	Valedictory and Vote of Thanks	

Registration Details

Sr. No.	Name of the Participant	Email	Designation	College Name
1	Parul Jain	parul.jain@thadomal.org	Assistant Professor	Thadomal Shahani Engineering College
2	Darakshan Khan	darakshan.khan@thadomal.org	Assistant Professor	Thadomal Shahani Engineering College
3	Ms.Saloni Dhuru	saloni.dhuru@thadomal.org	Assistant Professor	Thadomal Shahani Engineering College
4	Mrs. Shubhada Labde	shubhada.l@somaiya.edu	Assistant Professor	K J. Somaiya Institute of Technology, Mumbai
5	Dr. Gauri Shukla	gauri.shukla@thadomal.org	Associate Professor	Thadomal Shahani Engineering College
6	Nabanita Mandal	nabanita.mandal@thadomal.org	Assistant Professor	Thadomal Shahani Engineering College
7	Priyanka Leslie Fernandes	priyanka.bandagale@famt.ac.in	Assistant Professor	Finolex academy of management & Technology, Ratnagiri
8	Meenu Bhatia	m6eenu.bhatia@thadomal.org	Assistant Professor	Thadomal shahani engineering college
9	Mohammad Khalid Ansari	khalid.ansari@thadomal.org	Assistant Professor	Thadomal Shahani Engineering College
10	Nikita Raichada	nikita.raichada@thadomal.org	Assistant Professor	TSEC
11	Mohammed Adil Shaikh	adil.shaikh@thadomal.org	Assistant Professor	Thadomal Shahani Engineering College
12	ISRANI KIRAN KAMLESH	isranikirank@gmail.com	Assistant Professor	THADOMAL SHAHANI ENGINEERING COLLEGE
13	Dr. Archana B. Patankar	archana.patankar@thadomal.org	Professor	TSEC
14	Mrs.Mayura Rajesh Patil	mayura.patil@rsmpoly.org	Assistant Professor	MVPS Rajarshi Shahu Maharaj Polytechnic,Nashik
15	Bincy Chellapandi	bincy.ivin@ves.ac.in	Assistant Professor	VESIT
16	Shilpa Ingoley	shilpa.ingole@thadomal.org	Assistant Professor	Thadomal Shahani Engineering College
17	Vaishali Suryawanshi	vaishali.surya@gmail.com	Assistant Professor	TSEC
18	Seema Kolkur	kolkur.seema@gmail.com	Associate Professor	Thadomal Shahani Engineering College
19	Shradha Birje	shradha.birje.89@gmail.com	Assistant Professor	A P Shah

20	Manjusha Kashilkar	mnkashilkar@apsit.edu.in	Assistant Professor	A.P.Shah Institute of technology
21	Juhi Janjua	juhi.ganwani@thadomal.org	Assistant Professor	Thadomal Shahani Engineering College
22	Ms. Urjashree Patil	patil4urjashree@gmail.com	Assistant Professor	A. P. Shah Institute of Technology
23	Geetanjali Rohan Kalme	grkalme@apsit.edu.in	Assistant Professor	APSIT,Thane
24	Apeksha Mohite	atmohite@apsit.edu.in	Assistant Professor	A P Shah Institute of Technology
25	Shweta Mahajan	sdmahajan@apsit.edu.in	Assistant Professor	A. P. Shah Institute of Technology
26	Dr. Shilpa Verma	shilpaverma65@gmail.com	Associate Professor	Tsec
27	Mrs. Sheetal Avinash Gondal	sheetalgondal@gmail.com	Assistant Professor	Thadomal Shahani Engineering College
28	Shital Yatish Agrawal	syagrawal@apsit.edu.in	Assistant Professor	A. P SHAH INSTITUTE of Technology
29	Jayant Gadge	jayantrg@gmail.com	Professor	Thadomal Shahani Engineering College
30	Reshma Malik	s_reshma123@yahoo.co.in	Assistant Professor	Thadomal Shahani Engineering College
31	Sneha Vinod Dalvi	svdalvi@apsit.edu.in	Assistant Professor	AP SHAH COLLEGE OF ENGINEERING
32	Jaya Zalte	jaya.zalte@sakec.ac.in	Assistant Professor	SAKEC
33	Rujata Chaudhari	rhchaudhari@apsit.edu.in	Assistant Professor	A.P.Shah Institute of Technology, Thane.
34	Yaminee Patil	ympatil@apsit.edu.in	Assistant Professor	A P Shah Institute of Technology

Resource Persons

Ms. Uttara Athawale

Self Employed

Maharashtra, India

Experience

1. GNIMS Business School
Visiting Professor
Oct 2021 – Present 1 year 4 months
Mumbai, Maharashtra, India
2. Pillais College of Arts Commerce & Science Graphic
Member Board of Studies (Mathematics)
Pillais College of Arts Commerce & Science
Sep 2019 – Present 3 years 5 months
New Panvel
3. Bharati Vidyapeeth Institute Of Mangement & Information Technology, (MCA Dept.)
Assistant Professor
Dec 2009 - Mar 2021 11 years 4 months
4. Sterling Institute Of Management Studies
Lecturer
Jul 2008 - Dec 2009 1 year 6 months
Nerul, Navi Mumbai
5. Pillai's College Of Arts Commerce and Science
Lecturer
Sep 2002 - Jul 2008 5 years 11 months
Sector 16, New Panvel

Dr. Archana Patankar

Professor in Computer Engineering Dept. at Thadomal Shahani Engineering College, Mumbai

- Designation: Professor
- Educational Details:
 - Ph.D. (Computer Engineering) in 2011
 - ME (Computer Engineering), (VJTI) Mumbai, 1999
 - BE (Computer Engineering), (Walchand College, Sangli) 1996
- Area of Specialization:
 - Machine Learning
 - Deep Learning
 - Computer vision
 - Image Processing
- Teaching Experience: 23 + Years
- Total Experience: 23 + Years
- No of Papers Published in International Journals/Conferences: 95+
- FDP / Conferences/ Workshops (Attended / Organized): 20
- Certification / Diploma Courses Attended: 3
- Membership of Professional Organizations: (ISTE and CSI)
- Ph.D. Students Guided: 5

Dr. Bhushan Jadhav

Assistant Professor in Artificial Intelligence & Data Science Department at Thadomal Shahani Engineering College, Mumbai

- Designation: Assistant Professor
- Educational Details:
 - Ph.D. (Technology)
 - ME (Computer Engineering)
 - BE (Computer Engineering)
- Area of Specialization:
 - Artificial Intelligence and Data science,
 - Python programming
 - R Programming
 - Big data analytics
 - Cloud Computing and DevOPs
- Teaching Experience: 15 Years
- Total Experience: 15 Years
- No of Papers Published in International Journals/Conferences: 11
- Books Published: 10
- FDP / Conferences/ Workshops (Attended / Organized): 31/16
- Certification / Diploma Courses Attended: 18
- Membership of Professional Organizations: (ISTE)

Dr. Darshan Ingle

Assistant Professor in Information Technology Department at Thadomal Shahani Engineering College, Mumbai

- Designation: Assistant Professor
- Educational Details:
 - Ph.D. (Computer Science and Engineering)
- Area of Specialization:
 - Artificial Intelligence
 - Machine Learning
 - Natural Language Processing
 - Deep Learning
 - Tableau
 - Power BI
 - Big data analytics
- Teaching Experience: 12 Years
- Total Experience: 12 Years
- No of Papers Published in International Journals/Conferences: 13
- FDP / Conferences/ Workshops (Attended / Organized): 25
- Certification / Diploma Courses Attended: 6
- Membership of Professional Organizations: (ISTE)

Mr. Hriday Purohit

Ex-Data Science Intern | H2O.ai

- Educational Details:
 - Pursuing MS (Computer Engineering)
 - BE (Computer Engineering)

Experience

1. ZScalar

Working from last six months

- Natural Language Processing
(Research & Development)
- Associate System Engineer
Apr 2021 - Apr 2022 1 year 1 month
Bengaluru, Karnataka, India

2. Rutgers

Part-time lecturer in the domain of Machine Learning

3. H2O.ai

Data Science Intern

- Worked on Natural Language Processing Projects

Ms. Vijaya Padmadas

Assistant Professor in Computer Engineering Department at Thadomal Shahani Engineering College, Mumbai

- Designation: Assistant Professor
- Educational Details:
 - ME (Computer Engineering)
 - BE (Computer Engineering)
- Area of Specialization:
 - Semantic Web
 - Data Science
 - Data Warehousing & Mining
 - Big data analytics
- Teaching Experience: 23 Years
- Total Experience: 23 Years
- No of Papers Published in International Journals/Conferences: 6
- FDP / Conferences/ Workshops (Attended / Organized): 8
- Certification / Diploma Courses Attended: 4



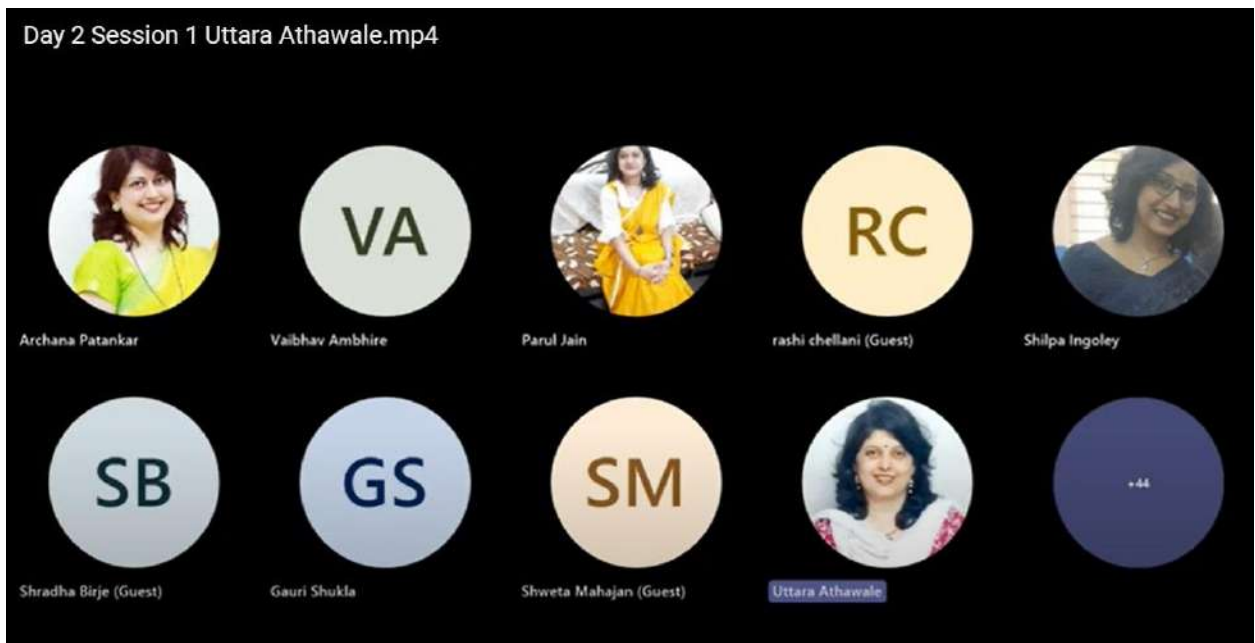
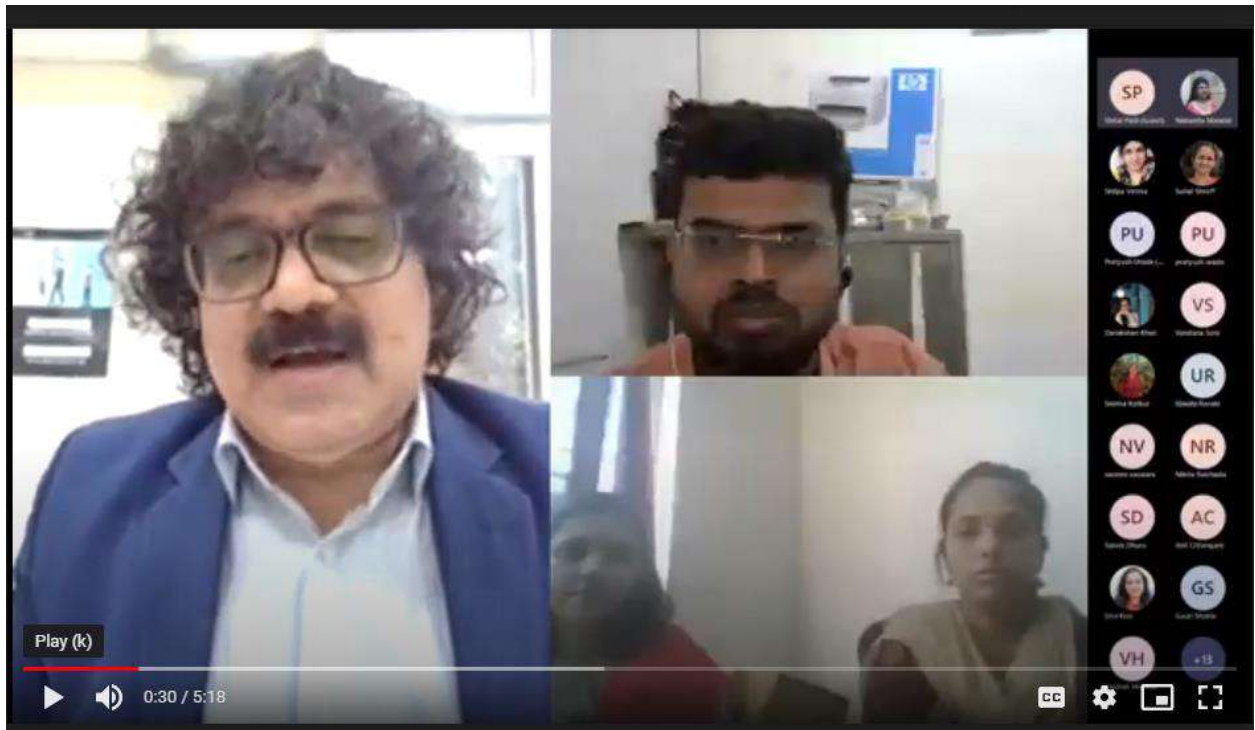
Indian Society for Technical Education
Shaheed Jeet Singh Marg New Delhi – 110 016

CERTIFICATE

This is to certify that Mr/Ms. **KHAN DARAKHSHAN RIZWAN** has successfully completed ISTE approved Online/SF-STTP/FDP Programme on “**Applied Statistics and Software Tools for Data Science**” held during **03.07.2023** to **08.07.2023** organized by **Thadomal Shahani Engineering College, Bandra (W), Mumbai, Maharashtra.**

Online/P-2023/7676

Executive Secretary



TSEC session 4th July 2023 Final - Excel

Weight Range	Frequency
20-25	6833
25-30	8012
30-35	6991
35-40	8037
40-45	8006
45-50	8170
50-55	8076
55-60	8032
60-65	8001
65-70	7900
70-75	8075
75-80	6996
80-85	7009
85-90	6680
90-95	6949
95-100	12000

Same as relative frequency

Weight Range	Relative Frequency
20-25	0.059991667
25-30	0.059225
30-35	0.0576
35-40	0.058258333
40-45	0.060275
45-50	0.059766667
50-55	0.067733333
55-60	0.067316667
60-65	0.066818333
65-70	0.066875
70-75	0.068833333
75-80	0.067251667
80-85	0.06505

Uttrara Athawale

Hands-on | jupyter

```

1 from sklearn.neighbors import KNeighborsClassifier
2 n = len(data)
3 alpha = 1 / (2 * n)
4 g_dist = stats.t.ppf(1 - alpha / 2, n - 2)
5 g_critical = (np.max(data) - np.min(data)) / g_dist
6 g_critical = (1 - alpha) * np.sqrt(np.square(g_dist)) / np.sqrt(n - 2 + np.square(g_dist))
7 outlier_ids = []
8
9 for feature in resampled_data_with_outliers.shape[1]:
10     feature_data = data_with_outliers[:, feature]
11     min_val = np.min(feature_data)
12     max_val = np.max(feature_data)
13     outlier_ids = np.where((np.abs(feature_data - np.mean(feature_data)) >= max_val) | (np.abs(feature_data - np.min(feature_data)) >= min_val))
14     outlier_ids.append(outlier_ids)
15 feature_data = np.delete(feature_data, outlier_ids, axis=0)
16
17 sklearn_outliers = np.unique(sklearn_outliers)
18 sklearn_outliers = np.array([ids for ids in sklearn_outliers if ids < data_with_outliers.shape[0]], dtype=int)
19 outliers = np.union1d(sklearn_outliers, sklearn_outliers)
20 outliers_detected = data_with_outliers[sklearn_outliers]
21
22 plot_outliers(sklearn_outliers, outliers_detected, "Grubbs' test")

```

Hriday Purohit (Guest)

Dr. Darshan Ingle (Guest)

Hriday Purohit (Guest)

Simple average method 219.89 44.28
 Simple moving average forecast 103.33 15.54
 Simple exponential smoothing forecast 107.89 16.34
 Holt's exponential smoothing method 80.9 39.39
 Holt's exponential smoothing method Multiplica... 74.77 11.03

Simple ES / Single ES: Level (α)
 Holt's ES / Double ES: $\alpha + \text{Trend} (\beta)$
 Holt-Winters ES / Triple ES: $\alpha, \beta + \gamma$ (Seasonality)

Holt Winters' additive method with trend and seasonality

```
In [ ]: y_hat_hwa = test.copy()
model = ExponentialSmoothing(np.asarray(train['Passengers']),
                             seasonal_periods=12,
                             trend='add',
                             seasonal='add')
model_fit = model.fit(optimized=True)
print(model_fit.params)
y_hat_hwa['hw_forecast'] = model_fit.forecast(24)
executed in 100ms, finished 15:36:15 2023-06-04
```

MG MAR... SA shita...
 AM Apek... KI Kiran...
 NR Nikit... See...
 VA Varib... AB AYU...
 SK SIMR... NK NID...
 SI SHAI... +28

Microsoft Teams

32:23

Chat People Raise React View Q&A Apps More Camera Mic Share Leave

Unmute (Ctrl+Shift+M)

Makhija Ha... SB
 SOMVA BA...
 SB SJ
 Shradha Bir... Sonali Jadh...
 Paul Jain Shilpa Ingo...
 AM 47
 ALI MEHTAB Participants

Ujjashree Patil (Guest)
 Kiran I...
 Geetanjali Kalne (Guest)
 KRISHNA PUNJABI
 Dr. Ta...
 Shrad...
 Ali M...
 Yash...
 Juhli G...
 Pankaj J...
 Archa...
 Gaur...
 Darshan Lail (Guest)
 Makhija Hash...
 Apoosha Mchite (Guest)
 Sonali...
 Shilpa...
 Sahil Khairi (Guest)



REPORT

AI in Supply Chain Management of Agriculture Produce

Thadomal Shahani Engineering College
8th January, 2024 to 13th January, 2024

Coordinator: Dr. Tanuja K. Sarode

Co-coordinator: Ms. Sonali B. Jadhav

AICTE TRAINING AND LEARNING ACADEMY, PUNE

ATAL FDP on “AI in Supply Chain Management of Agriculture Produce”

AI in Supply Chain Management of Agriculture Produce

AI in Supply Chain Management of Agriculture Produce:- 6-Days AICTE sponsored FDP was conducted from 8th to 13th January 2024 in which 35 participants from different parts of the country participated.

The speakers for the 6-day workshop on “AI IN SUPPLY CHAIN MANAGEMENT OF AGRICULTURE PRODUCE” were:

Speakers Details

Dr. G. T. Thampi, Principal, Thadomal Shahani Engineering College, Bandra, Mumbai



Designation: Principal, Thadomal Shahani Engineering College, Bandra, Mumbai

Qualification:

- Ph.D. (Reengineering of Engineering Education Technology)
- M.E. (Mechanical Engineering with Machine Design)
- B.Sc. (Mechanical Engineering)

Experience: 37 Years

Dr. Darshan Ingle, Thadomal Shahani Engineering College, Bandra, Mumbai



Designation: Assistant Professor at Thadomal Shahani Engineering College, Bandra, Mumbai.

Qualification:

- Ph.D. (Computer Science and Engineering)
- M.E.(Computer Technology)

Experience: 14 years

Dr. Anjali Yeole, Vivekanand Education Society's Institute of Technology



Designation: Assistant Professor at Vivekanand Education Society's Institute of Technology

Qualification:

- Ph.D. (Information Technology)
- M.E. (Computer Engineering)
- B.E. (Computer Engineering)

Experience: 31 Years

Dr. Gopal Pardesi, Associate Professor in Thadomal Shahani Engg. College



Designation: Associate Professor in Thadomal Shahani Engineering College

Qualification: Ph.D. (IT)

Experience: 31 Years

Dr. Ramchandra Mangrulkar, Dwarkadas J. Sanghvi Engg. College, Vile Parle, Mumbai	
	<p>Designation: Professor in Department of Information Technology, Dwarkadas J. Sanghvi College of Engineering, Mumbai</p> <p>Qualification:</p> <ul style="list-style-type: none"> • Ph.D. (Computer Science and Engineering) • M.Tech. (Computer Science and Engineering) • B.E. (Computer Science and Engineering) <p>Experience: 23 Years</p>
Prof. Yogesh Pingle, Vidyavaridhi's College of Engineering & Technology, Vasai Road	
	<p>Designation: Deputy HOD and Assistant Professor, Computer Science Engineering (Data Science)</p> <p>Qualification:</p> <ul style="list-style-type: none"> • Pursing Ph.D. (Computer Engineering) • M.E. (Computer Engineering) • B.E. (Computer Engineering) <p>Experience: 18 Years</p>
Mr. Vishal Tejawani, Buildasap.in, Mumbai	
	<p>Designation: Founder of Buildasap.in</p> <p>Qualification:</p> <ul style="list-style-type: none"> • B.E.(Computer Engg.) <p>Experience: 10 years</p>
Ms. Amita Dhadave, State Bank Officers Association Public School	
	<p>Designation: Yoga Teacher at State Bank Officers Association Public School</p> <p>Qualification:</p> <ul style="list-style-type: none"> • BMS (Motilal Jhunjhunwala College) • M.A. (Yogashastra, from K. J. Somaiya College) • Yoga Teacher Training Course <p>Experience: 12 years</p>
Dr. Monika Mangla, Dwarkadas J. Sanghvi Engg. College, Vile Parle, Mumbai	
	<p>Designation: Associate Professor in Information Technology, Dwarkadas J. Sanghvi College of Engineering.</p> <p>Qualification:</p> <ul style="list-style-type: none"> • Ph.D. (Computer Science,2019) • ME (SE,2007) • BE (CSE, 2001) <p>Experience: 20 Year</p>

ATAL FDP on “AI in Supply Chain Management of Agriculture Produce”

The schedule of the FDP was as below-

Day	Session I 9:30 AM - 11:30 AM	11.45 AM-1:15 PM	1:15 PM-2:00 PM	Session II 2:00 - 4:30 pm	Session III 4:30 - 5:30 pm
Monday 08/01/2024	Inauguration and Keynote address Dr. G. T. Thampi Principal, TSEC	Introduction to Artificial Intelligence and related technologies Dr. Darshan Ingle Assistant Professor, TSEC, Bandra	L U N C H B R E A K L U N C H B R E A K	Practical Session: Hands on Session on AI Classification Algorithms for Supply Chain Management Dr. Darshan Ingle Assistant Professor, TSEC, Bandra	Article Discussion
Tuesday 09/01/2024	Introduction to AI in Supply Chain Management Dr. Anjali Yeole Associate Professor, VESIT, Chembur, Mumbai	Fundamentals of Data Collection and Preprocessing with Demand Forecasting Models Dr. Gopal Pardesi Associate Professor, TSEC, Bandra		Practical Session: Hands on Data Collection and Preprocessing with Demand Forecasting Models for Supply Chain Management Dr. Gopal Pardesi Associate Professor, TSEC, Bandra	Article Discussion
Wednesday 10/01/2024	Inventory Management with AI Prof. Ramchandra Mangrulkar Professor, DJSCE, Vileparle	AI enabled IOT as pervasive & ubiquitous technological artifacts for tracking & monitoring inventory systems. Prof. Yogesh Pingle Assistant Professor, VCET, Vasai		Practical Session: Hands on Session on AI Clustering Algorithms for Supply Chain Management Prof. Yogesh Pingle Assistant Professor, VCET, Vasai	Article Discussion

ATAL FDP on “AI in Supply Chain Management of Agriculture Produce”

The inauguration was held on 8th January 2024 at 9:30 am. Dr. G. T. Thampi Principal TSEC, Vice principal TSEC Dr. Jayant Gadge and HOD IT and Vice Principal TSEC Dr. Mukesh Israni, Coordinator, Co-ordinator and participants were present.

Ms. Parul Jain faculty of Computer Engineering department welcome all the dignitaries and participants. Dr. G. T. Thampi Principal TSEC gave the key note address to and Coordinator proposed the Vote of Thanks.

Some screenshots of the inaugural function are as below.



 **THADOMAL SHAHANI ENGINEERING COLLEGE** 
DEPARTMENT OF COMPUTER ENGINEERING
ONE WEEK FACULTY DEVELOPMENT PROGRAM ON
“AI IN SUPPLY CHAIN MANAGEMENT OF AGRICULTURE PRODUCE”

January 8, 2024 to January 13, 2024
Sponsored by
All India Council for Technical Education (AICTE) ATAL Academy

DR. G. T. THAMPI
PRINCIPAL

DR. TANUJA SARODE
COORDINATOR

MS. SONALI JADHAV
CO-COORDINATOR



ATAL FDP on “AI in Supply Chain Management of Agriculture Produce”

Following is the Participants list

Sr.No.	Name	Email	Phone	Institute Name	District	Pincode
1	Mrs. Prachi Harshal Dalvi	prachi.dalvi@fragnel.edu.in	9987306727	FCRCE,Bandra	Mumbai	400050
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14	Dr. Rachana Dhannawat	agrawalrachana2020@gmail.com	9960694270	UMIT,SNDTWU	Thane	401107
15	Miss Sonali Bodekar	soni.bodekar@gmail.com	9167236619	UMIT,SNDTWU	Mumbai Suburban	400072
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ATAL FDP on “AI in Supply Chain Management of Agriculture Produce”

FDP Sessions photos



**Thadomal Shahani Engineering College
Computer Engineering Department
AICTE ATAL One Week FDP on
“AI in Supply Chain Management of Agricultural Produce”**

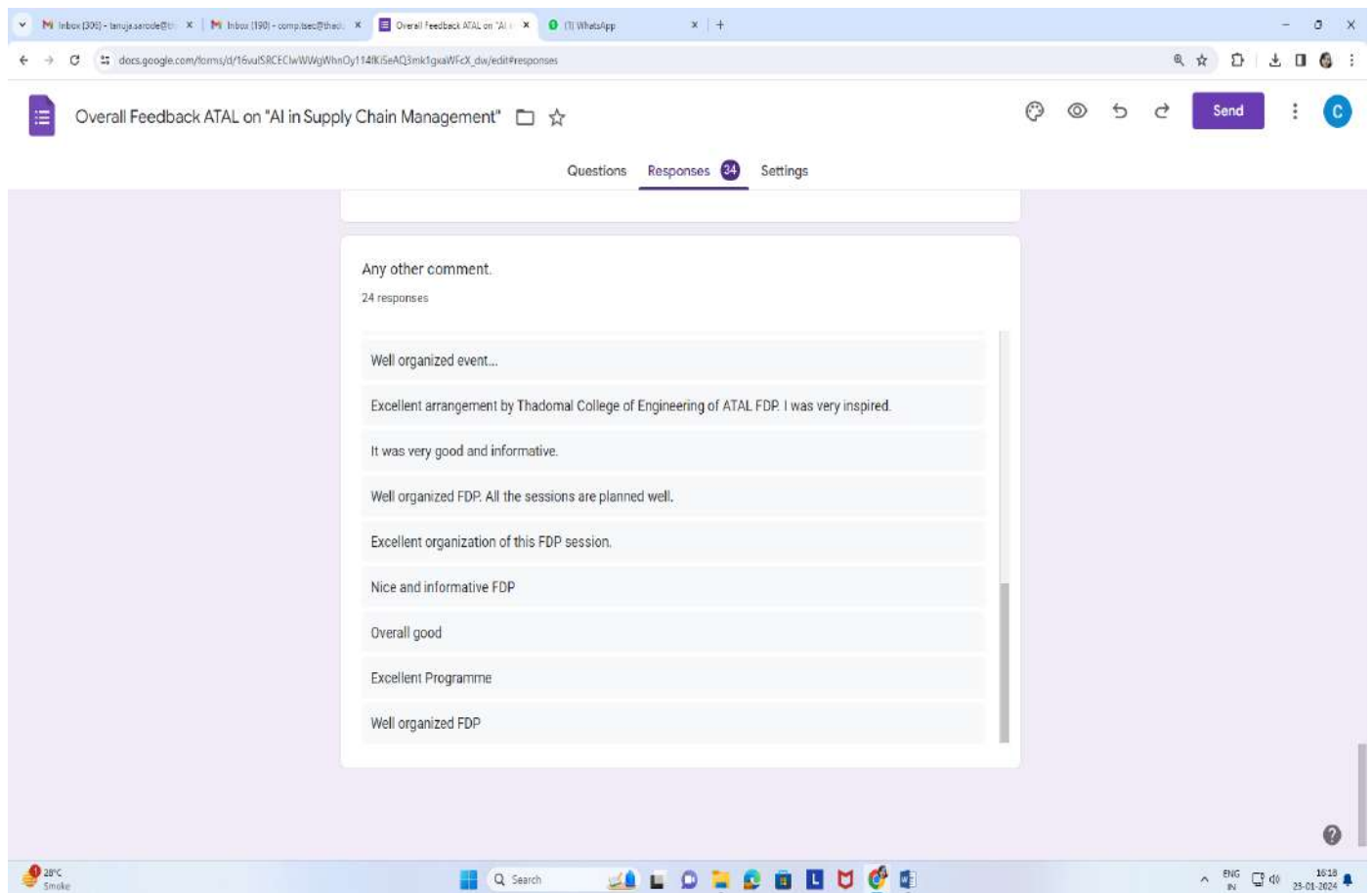


ATAL FDP on “AI in Supply Chain Management of Agriculture Produce”

Some pics of the faculties who gave feedback for the FDP are as below



Some of the feedback received for the workshop are as below



It was a great Initiative by ATAL Academy. I am thankful to AICTE for giving me this opportunity to conduct sponsored FDP for faculty members of technical institute of India. I got good response for registration as well as lots of compliment of arranging the FDP content and hands on.



TSEC CODECELL PRESENTS

TSEC HACKS 2024

WEBSITE: [TSEC HACKS'24 \(tseccodecell.com\)](https://tseccodecell.com)

INSTAGRAM: <https://www.instagram.com/tseccodecell/?hl=en>

TSEC CodeCell, under the guidance of Prof. Tasneem Mirza, successfully organized its flagship event, TSEC Hacks 2024, a 24-hour offline hackathon held from January 31st to February 1st. The hackathon aimed to create an environment conducive to innovation and creativity, welcoming both seasoned professionals and newcomers to immerse themselves in a culture of creative thinking.

Participants, comprising a diverse group of young programmers from various colleges, academic years, and disciplines, engaged in the event. To promote TSEC Hacks 2024, the organizing team utilized a multi-channel approach, leveraging platforms such as Instagram, LinkedIn, and WhatsApp. Comprehensive promotional messages and posters reached all college and class groups, while on-campus visibility was heightened through strategically placed posters and active committee participation in class promotions.

During the hackathon, teams collaborated to devise inventive solutions for the given problem statements. Each team benefited from the guidance of an assigned mentor who offered support, feedback, and valuable advice to help refine their ideas. To ensure a fair and structured competition, teams strictly adhered to a provided PDF document containing all the rules and restrictions through Tsec hacks app.

TSEC CodeCell took care of participants' needs throughout the event, providing meals, sleeping arrangements, and snacks to sustain energy levels. The inclusive approach aimed to create an inspiring and enjoyable atmosphere for participants to showcase their skills and foster a community of creativity and innovation.

The sequence of events during the hackathon unfolded as follows:

• **Day 1 (31st January):**

8:00 am: The registrations were immense and teams were asked to settle in their allotted lab and were given the necessary details for the upcoming hackathon.

10:00 am: The opening ceremony commenced in the Seminar hall with all the team leaders and teaching staff in attendance. Following introductions and an opening speech, the stage was graced by Dr. GT Thampi, TSEC's principal. His compelling and inspirational words resonated with the audience, instilling motivation and encouragement among all present.

Subsequently, our title sponsor took the stage, delivering a powerful speech filled with empowering words that resonated with the audience

10:30 am: The problem statements for the hackathon were also explained by the SCOMs and all the doubts were cleared by them too.

11:00 am: The Hackathon kicked off, initiating a flurry of activity as teams immersed themselves in brainstorming and tackling their chosen problem statements. Committee members strategically positioned themselves near the labs where the teams were located, ensuring prompt assistance whenever required

1:00 pm: Lunch was served to all participants and teaching and non-teaching staff who were part of the event in the student lounge in an orderly manner.

4:00 pm: Snacks and Tea was again distributed amongst all present.

6.30 pm: The mentoring session, organized according to specific domains, began with each team being assigned a mentor in person, tailored to their expertise. The session took place offline in the allotted labs, with two committee members present to supervise and facilitate the process.

9:00 pm: Dinner started simultaneously as the mentoring went on till 11 pm at night

1:00 am: Midnight snacks were distributed amongst participants.

• **Day 2 (3rd February):**

10:00 am: All teams were told to upload their projects on Devfolio and also be ready with their final ppts for the internal judging round.

11:00 am: The internal judging round commenced, featuring a total of seven panels that evaluated the teams based on their domain expertise.

3:00 pm: The announcement of the top 10 shortlisted teams marked the initiation of the final judging round. Each finalist was granted the stage to showcase their prototype before an esteemed panel of judges. The presentations were followed by a comprehensive questionnaire session, allowing the judges to delve deeper into each team's project.

6:00 pm: After tallying all the judges' scores, the results were announced.

LOGISTICS:

Participants were supposed to register for the hackathon on Devfolio. There were 263 teams that registered for the hackathon that comprised 1208 applications. Out of these teams, 54 were shortlisted for the hackathon. The shortlisting process consisted of going through the team's resume and conducting a telephonic interview with the team leader.

There were 4 domains in the hackathon and the shortlisted teams in each domain were as follows:

Domain	No. of Teams
Web/App Dev	19
AIML	14
Social Cause	16
BlockChain	7

PRIZES:

Cash Prize Pool for the winners was ₹60,000

1st Position: ₹30,000

2nd Position: ₹20,00

3rd Position: ₹10,000

Additionally, The sponsor generously awarded 15,000 rupees to the outstanding project in the AIML domain, recognizing it as the best among the participants.

In addition to this, all the winners and participants were given various goodies as follows:

- 40% off coupons for courses/programs offered by TechBairn for all participants.
- 60% off coupons for courses/programs offered by TechBairn for 1st and 2nd Runner's up.
- 100% scholarship for courses/programs offered by TechBairn for the Winners.
- 50% off gaming vouchers to top participants at NoEscape Mumbai
- 5000 INR to winning project (deployed on Replit)
- Free .xyz Domains for participants to host their projects.

MENTOR PANEL:

Mentors	Domains
Tushar Nankani , Darshan Rander , Pratil Thakare, Hritik Tiwari , Jaden Furtado	Web/App Dev , Social Cause
Aditya Motwani	AIML
Hardik Raheja	Blockchain

FIRE BRIGADE:

Fire brigades	Domains
Sachin Jangid, Omkar Bhostekar, Siddesh Shetty	Web/App Dev , Social Cause
Gargi Sethe	AIML
Aditya Surve	Blockchain

INTERNAL JUDGING PANEL:

DOMAIN	NO.	JUDGES
Web/App/Social	1.	Dr. Shanthi Therese
		Dr. Mukesh Israni
		Dr. Sachin Bojewar
	2.	Dr. Gopal Pardesi
		Dr. Gauri Shukla
		Prof. Anagha Durugkar
	3.	Dr. Jayant Gadge
		Dr. Kumkum Saxena
		Mr. Bharat Tolani
	4.	Prof. Vaishali Suryavanshi
		Dr. Anil Chhangani
		Dr. Rajesh Bansode
AI/ML	5.	Dr. Arun Kulkarni

		Dr. Ujawala Bharambe
		Mr. Nimesh Muralidhran
	6.	Dr. Arti Deshpande
		Dr. Shilpa Verma
		Dr. Seema Kolkur
BlockChain	7.	Dr. Bhushan Jadhav
		Dr. Archana Patankar
		Dr. Irfan Siddhavatam

FINAL JUDGING ROUND PANEL:

- Nikunj Purohit
- Bharat Tolani
- Dr. Irfan Siddavatam
- Nimesh Mularidharan
- Anagha Patil
- Dr. Rajesh Bansode
- Prakash Chandwani
- Sanjeev Dhiman

PROBLEM STATEMENTS:

WEB/APP :

1. Tech Discussions OTC

OTC (Our Tech Community), hosts weekly online meetups every Saturday, fostering engaging discussions on various aspects of the tech industry. While these gatherings are enriching, the current manual process of summarizing and posting content on the community's website presents significant challenges in terms of time efficiency and accuracy. To address these issues and further elevate the community experience, there is a pressing need for an advanced and automated application.

Ref: <https://catchup.ourtech.community/summary/166>

POTENTIAL FEATURES:

- Extract key insights, discussions, and trends from the conversations.
- Generate concise summaries for each meetup.
- Group summarized content into relevant topics or categories for easy navigation and content discovery.
- Create a system that gauges overall participant mood and reactions, integrating analytics to evaluate individual meetup participation based on factors like contribution frequency, topic expertise, and engagement

level.

- Develop a user-friendly search feature, allowing users to search for specific keywords, like 'hackathon,' and retrieve relevant meetings along with their transcriptions.
- Automatic uploading of summaries to the community's website.

BONUS POINTS:

1. Capture the best photogenic moments from the meeting and add them to the summary.
2. Integrate with various platforms like Google Meet, Zoom, etc.

2. One Hub, Infinite Research

Content creators and social media enthusiasts struggle with the time-consuming task of manually sharing their creations on diverse platforms like Instagram, YouTube, and Facebook. This process demands meticulous attention to detail, leading to inefficiencies and potential oversights. As the number of platforms and content creation increases, there is a need for an innovative solution that simplifies and centralizes the content creation and sharing process across the digital landscape.

POTENTIAL FEATURES:

- Enable simultaneous content uploads across Instagram, YouTube, and Facebook with one click.
- Implement an AI tool for automatic, eye-catching thumbnail suggestions.
- Provide a unified analytics dashboard for total views across linked platforms.
- Recommend optimal posting schedules based on peak engagement times.

- Centralized tool for planning and tracking content releases across platforms.
- Auto-generate short clips from the most relevant segment for platforms like Instagram Reels and YouTube Shorts.
- Implement robust measures to secure keys, ensuring protection against unauthorized access and safeguarding creators' data and content.

BONUS POINTS:

Enable creators to receive real-time content suggestions by analyzing the latest trends across social media platforms, facilitating timely and relevant content creation.

3. Harmonizing Homes

Managing an interior design project with multiple servicemen becomes complex without a cohesive platform. The absence of integration hinders task tracking, cost management, and completion monitoring. This disjointed approach leads to communication gaps, project delays, and conflicts among participants. An integrated platform is essential for streamlined communication, collaboration, and maintaining transparency, efficiency, and harmony in interior design project management.

POTENTIAL FEATURES:

- A centralized dashboard providing real-time updates for all members of a family to track project progress and milestones with respect to their area of interest.
- An integrated task management system allowing assignment, tracking, documents and status updates for various tasks associated with the interior design project.
- Comprehensive cost tracking and budgeting feature to monitor expenses, allocate budgets, and ensure financial transparency throughout the project.
- Integrated communication hub facilitating seamless interaction and information exchange between vendors, contractors, and other stakeholders.
- Analytical tools providing insights into the completion rates of different

project phases, enabling proactive adjustments to meet project deadlines effectively.

- System for collecting feedback from all stakeholders at various project stages.
- Accessibility across different platforms

BONUS POINTS:

Seamless integration with e-commerce platforms to enable users to directly purchase recommended furniture and decor items.

AI/ML:

1. MedScanOCR

In the healthcare sector, efficient extraction and organization of information from diagnostic reports are critical for medical professionals. Existing challenges include the lack of a specialized OCR system tailored for medical records, suboptimal data structuring, and the absence of a comprehensive user interface. To address these issues, we propose the development of MedScanOCR—an integrated solution that operates independently, combining OCR capabilities, structured data conversion, user-friendly interfaces, chatbot integration, and accuracy validation. Note: Do not use any third-party services, such as BARD, for OCR functionality.

POTENTIAL FEATURES:

- Develop a robust OCR engine capable of accurately extracting text from medical records in both image and PDF formats.
- Implement a mechanism to convert the extracted text data into a structured JSON key-value format, ensuring the integrity and relevance of the medical information.
- Develop a user-friendly interface allowing users to upload medical documents through camera or file upload in PDF/image formats, supporting multiple pages organized by test name and dates.
- Implement two interfaces: one for document upload and another for dynamic data querying from all reports.
- Create an intelligent chatbot to facilitate doctors in querying document data, for instance, retrieving Red Blood Cell (RBC) counts from all reports and presenting them chronologically by date.

Dataset: <https://shorturl.at/enBP4>

2. INTELLIGENT INTERIOR DESIGN COMPANION

Designing the interior of a house is a complex and time-consuming task that often requires professional expertise. Many individuals, however, lack the resources or accessibility to hire an interior designer, leading to challenges in creating aesthetically pleasing and functional living spaces. To address this issue, there is a need for an intelligent Conversational AI platform that enables users to plan and visualize the interior design of their homes effectively.

POTENTIAL FEATURES:

- Users should be able to communicate their preferences, ideas, and constraints using natural language.
- Provide style recommendations based on user preferences, taking into account popular interior design trends and personalized choices.
- Interactive tools to visualize designs
- Incorporate a budget management feature to help users make cost effective decisions by suggesting affordable yet stylish furniture and decor options.
- Offer suggestions for materials and color palettes that align with the user's taste and the overall design concept.
- Optimize the functionality of each room by considering the user's lifestyle, needs, and the intended purpose of the space.
- Provide a feature to track the progress of the design, enabling users to make revisions and adjustments as needed.

BONUS POINTS:

- 1. Integration with design platforms of seamless design files
- 2. Advanced 3D Modeling and Rendering

SOCIAL

1. Corporate Social Responsibility

The Government of India has mandated that companies with an annual profit exceeding 5 crores allocate a minimum of 2 percent of their profits towards Corporate Social Responsibility (CSR) initiatives. However, many companies struggle to identify and choose relevant CSR causes that align with their values and the needs of the local community. There is a need for an efficient and user-friendly solution that assists companies in discovering suitable CSR causes within a specific geography, providing them with personalized suggestions to streamline their CSR efforts.

POTENTIAL FEATURES:

- The app should allow companies to specify the geographical area where they wish to focus their CSR initiatives.
- Companies should be able to create profiles detailing their core values, mission, and areas of interest.
- Database of verified CSR causes, categorized by sectors such as education, healthcare, environment, etc.
- Provide information on the potential impact of each CSR cause, including metrics and success stories.
- Facilitate communication between companies and local communities or NGOs associated with the chosen causes.
- Integrate tools to monitor CSR fund allocation, ensuring compliance with government regulations.
- Generate comprehensive reports showcasing the impact of a company's CSR initiatives over time.
- Identify potential collaboration opportunities with other companies, NGOs, or governmental bodies working towards similar CSR goals.
- Incorporate features for educating companies on legal and ethical aspects of CSR, aiding compliance and ethical standards navigation.

2 NutriSAFE

Siddanth is new to town; he enters a supermarket to shop for food/groceries and is met with a myriad of choices - unfortunately with the ever-growing options comes another problem- tracking the allergens in said products. Siddanth has specific dietary restrictions and faces the challenge of navigating through products while making sure they are safe to consume. Deciphering complex ingredient lists and nutritional labels is a time-consuming and daunting task. There is a need for an application so that users like Siddanth can quickly and easily identify if a food product is safe to consume with regards to following criteria. Allergens, Lactose(or similar such intolerances) and Religious Dietary Considerations (Jain, Halal, Kosher etc.) Additionally, Siddanth also wishes to know alternatives to the products that are otherwise harmful to consume.

POTENTIAL FEATURES:

- A list of stores where the user can find products that are safe to consume- thus saving time.
- Users should have the capability to report instances where a product caused unexpected allergic reactions.
- A community page that encourages suggestions and discussion over food products and allergic reaction causing items
- Provide users with recipes that align with their dietary restrictions and preferences, utilizing the safe-to-consume products available in stores.
- Offline functionality to allow access to the app when internet connection may be inconsistent
- Recommendation system based on products chosen by other users with common allergies.
- A feature that helps users navigate through stores efficiently, guiding them to the specific aisles or sections where they can find products that meet their dietary requirements.

BLOCKCHAIN

1. Estatechain

The real estate business, which is a crucial part of our economy, is currently dealing with problems because of using old-fashioned paper methods. These old ways make it hard to smoothly and clearly transfer property ownership. As a result, it causes delays, makes transactions more expensive, and is not very easy for everyone involved. It's all about using blockchain technology to completely change how real estate deals happen, making them faster and simpler for everyone.

POTENTIAL FEATURES:

- Develop a secure system that enables seamless property ownership representation while prioritizing privacy.
- Leverage smart contracts to automate and streamline property transactions, fostering transparency, reducing reliance on intermediaries, and mitigating the risk of fraudulent activities.
- Create a decentralized ledger for property records, ensuring a secure and immutable database accessible to relevant parties, including buyers, sellers, real estate agents, and government authorities.
- Establish an unalterable ownership history that provides a transparent and traceable record of all property transactions over time, enhancing accountability and trust.
- Enforce compliance with local real estate regulations, ensuring that transactions adhere to legal requirements, thereby fostering a trustworthy ecosystem.
- Develop solutions to enhance accessibility to property information for potential buyers, sellers, and other stakeholders, facilitating a more informed and efficient real estate market.

2. Transforming Cross-Border Commerce

Indian businesses in import-export face hurdles in achieving swift and cost-effective cross-border transactions aligned with WTO agreements and ESG norms. Current systems lack transparency and traceability, resulting in delays, higher costs, and compliance challenges with international trade regulations and sustainability standards. There's a critical need for a Consortium Blockchain solution to streamline these processes, ensuring transparency, efficiency, and adherence to global standards in the import-export activities of Indian businesses.

POTENTIAL FEATURES:

- Implement smart contracts to automate and enforce trade agreements in alignment with WTO rules, reducing the risk of disputes and ensuring compliance.
- Secure transactions with multi-signature approval in the Consortium Blockchain's escrow system.
- Establish a decentralized identity management system to secure and authenticate all participants in the import-export process, ensuring compliance with international standards and mitigating the risk of identity-related fraud.
- Integrate ESG data to assess and track the environmental, social, and governance impact of import-export activities, providing businesses with insights to improve sustainability practices.
- Enable transparent cross-border commerce through real-time tracking, auditability, and community consensus mechanisms

WINNERS:

- **First Prize** - MinGW x 69(Thadomal Shahani Engineering College)

Jash Doshi

Abhigyan Bafna

Stephen Vaz

Atharv Salian

- **Second Prize** - Iterative Bytes (Dwarkadas J Sanghvi College Of Engineering)

Saniyaa B Shetty

Soham Vishal Patil

Sujal Choudhari

Kush Amit Kapadia

- **Third Prize** - Loading... (Sardar Patel Institute of Technology)

Navneet Nair

Vikas Rajpurohit

Satyam Jaiswal

Prathamesh Paradkar

FEEDBACK:

Participants as well as judges were given a feedback form . The feedback received was incredibly positive and encouraging.

Feedback form of Participants - <https://forms.gle/phQmuNbkQZUaNhMy8>

PICTURES:

The poster is for 'TSEC HACKS 24' and features several logos at the top: HSNC (75th anniversary), TSEC CIDECELL, TSEC INSTITUTIONS INNOVATION COUNCIL, and TSEC ENGINEERING COLLEGE. It is a collaboration with 'tekno point / DEPT.'. The main title is 'TSEC HACKS 24' in large, bold, white letters, with '24 HRS OFFLINE HACKATHON' below it. Three key details are highlighted in brown boxes: 'TEAM 2 - 4 MEMBERS' (with a bow icon), 'FEE ABSOLUTELY FREE' (with a money bag icon), and 'DATE JAN 31ST - FEB 1ST 2024' (with a stopwatch icon). The convener is listed as 'Principal- D.r. G.T. Thampi'. At the bottom, the roles and names of the organizers are listed: CO-ORDINATOR Prof. Darakhshan Khan, CO-CONVENER Prof. Tasneem Mirza, CO-CONVENER Prof. Tanuja Sarode, and CO-ORDINATOR Dr. Seema Kolkur. Contact numbers are provided: Laksh : +91 98679 00994 and Siddanth : +91 77109 69147. A registration link is mentioned as 'Registration Link in Bio'.







COMMITTEE MEMBERS:

SCOMs:

Abhinav Gajria
Abhishek Upadhyay
Anas Khan
Jagjeet Singh
Khan Mohd Sajid Razzaque
Laksh Doshi
Navneet Anand
Nikshita Karkera
Om Ahvad
Parth Puranik
Pratham Rohra
Sarthak Tanpure
Sayed Mohib Abbas Reshad Hussain
Sayyed Hamza Mustaq Ali
Shristi Shetty
Shubham Tainwala
Siddanth Manoj
Sumil Suthar
Tanishqa Sawant
Vishesh Gatha

JCOMs:

Atharva Yadav
Pooja Makhijani
Vedant Vilas Borkar
Nidhi Mhatre
Hriday Jain
Zoya Hassan
Sayed Zeeshan Hyder Abbas Rizvi
Rohan Advani
Yash Saini

REPORT

Code Storm - TSEC

Codeissance'23 (24-Hour Hybrid Hackathon)

TSEC Code Storm organized Codeissance'23 a thrilling 24-hour hybrid hackathon on the 4th and 5th of October 2023. Codeissance'23, brought together coding enthusiasts for an intense coding experience. This dynamic event attracted participants from various colleges, with 316 individuals forming 79 teams, the hackathon provided a platform for showcasing innovative solutions across various domains. The combination of online and offline participation added a dynamic element to the hackathon, creating an engaging and competitive atmosphere. The event proved to be a remarkable experience, leaving a lasting impact on the coding community.

Event details

- Mode of conduct: Hybrid
- Team Size: 2 to 4 members
- Participation Fees: Rs. 400/- per team
- More details: <https://tseccodestorm.dev/>

Event Timeline:

Problem Statements Display (3rd October'23 11:00 PM IST – 4th October'23 10:00 AM IST)

Participants were presented with a curated list of problem statements across various domains on 3rd October, 2023. During this period, participants chose their specific problem statements.

Day 1: Inauguration (4th October'23 10:00 AM IST)

The hackathon kicked off with a grand Inauguration Ceremony. Dr. G.T. Thampi (Principal and Convener), officially declared the hackathon open in the presence of esteemed teachers Dr. Jayant Gadge (Vice Principal), Dr. Mukesh Israni (HoD IT and Co convener), Dr. Shanti Therese(Co-Convener), Dr. Madhuri Rao (HoD AIDS), Prof. Sanober Shaikh (Co-ordinator) Prof. Sheetal Gondal (Co-ordinator) and other faculty members from department of Information technology and other departments.

Day 2: Continue Coding and Mentoring Session (4th October'23 8:00 PM IST – 5th October'23 10:00 AM IST)

The coding momentum persisted as participants delved into their projects. Simultaneously, mentoring sessions were conducted in various, providing valuable guidance and insights.

Day 2: Coding Round Ends & Internal Judging Sessions (5th October'23 11:00 AM – 12:30 PM IST)

The coding marathon concluded, marking the beginning of internal judging sessions. Teams were rigorously evaluated, leading to the announcement of shortlisted groups poised for the next phase.

Day 2: External and Final Judging Sessions (5th October'23 1:30 PM IST - 05:00 PM IST)

The pinnacle of the event unfolded with the final external judging round, featuring the top 10 teams from the internal judging phase. The day culminated in a prize distribution and closing ceremony.

External judges for the 24 – Hour Hybrid Hackathon, Codeissance'23

1. Amit Nerukar (Vidyalankar Institute of Technology)
2. Dr. Sujata Deshmukh (Fr. Conceicao Rodrigues College of Engineering)
3. Dr. Uday Joshi (K J Somaya College of Engineering, Vidyavihar)

Domains:

1. Web/App development
2. Social Cause
3. Artificial Intelligence/ Machine learning

Problem Statement

1. Web/App (01)

Employee Feedback and Engagement Platform

Employee feedback and engagement are crucial aspects of maintaining a productive and satisfied workforce. Businesses need effective tools and platforms to gather employee feedback, measure engagement, and take actionable steps to enhance the work environment. An Employee Feedback and Engagement Platform is designed to address these needs. The problem at hand is the lack of a comprehensive platform that facilitates continuous employee feedback, gauges employee engagement levels, and provides actionable insights to improve workplace satisfaction and productivity. This platform should offer a user-friendly interface for employees to share feedback and for management to analyse and act upon it

Key Features:

1. Enable the creation and distribution of various types of surveys, including satisfaction surveys, pulse surveys, and feedback forms, allowing employees to express their opinions on various aspects of the workplace.
2. Provide an option for employees to submit feedback anonymously to encourage honest and candid responses.
3. Implement mechanisms to measure and track employee engagement over time, using key performance indicators (KPIs) like participation rates, productivity, and retention.
4. Support 360-degree feedback processes, allowing employees to receive feedback from peers, managers, and subordinates to promote holistic self-improvement.

5. Provide data analytics and insights to help organisations understand the root causes of issues and trends within the workforce and develop strategies for improvement.
6. Incorporate a feature for recognizing and rewarding employees based on their contributions, achievements, and feedback received from peers.

2. Web/App (02)

Event Planning and Scheduling

Event planning and scheduling present multifaceted challenges encompassing a wide spectrum of events, from conferences to weddings and corporate gatherings. Event organisers grapple with persistent issues, including scheduling conflicts, financial overruns, and client discontentment. This problem statement calls for innovative solutions that streamline the planning process, enhance resource management, and ensure client satisfaction, ultimately revolutionising the event industry.

Key Features:

1. Develop an intelligent scheduling algorithm that minimises conflicts by analysing event dates, venues, and participant availability.
2. Implement a robust budget management system that tracks expenses in real-time and provides accurate financial forecasts.
3. Create a client portal where organisers and clients can communicate, share updates, and make decisions collaboratively.
4. Build a platform that connects event organisers with vetted vendors, allowing for easy vendor selection, negotiation, and booking.
5. Offer real-time messaging and notification systems to keep all stakeholders informed and connected throughout the planning process.
6. Incorporate a feedback mechanism that allows clients and attendees to rate and review events, contributing to continuous improvement.

3. Web/App (03)

Career Interest Assessment and Recommendation

The journey of choosing a career is a pivotal moment in a student's life, yet it's fraught with uncertainty due to a lack of self-awareness regarding their interests and strengths. This hackathon challenge presents an opportunity to address this pervasive issue by envisioning and developing a Career Interest Assessment and Recommendation Website. Your task is to create a digital platform that acts as a guiding light for students. It will offer dynamic tools and assessments to help them uncover their true passions and talents. Through data-driven insights and personalised recommendations, we aim to empower individuals to make informed career choices that align with their unique skills and aspirations.

Key Features:

1. Provide a range of comprehensive assessments that evaluate a user's interests, strengths, personality traits, and values to build a holistic profile.
2. Offer tailored career recommendations based on the assessment results, suggesting suitable professions, industries, and educational paths.
3. Curate a vast repository of career-related resources, including articles, videos, and courses to help users explore and prepare for their chosen fields.
4. Provide data-driven insights into emerging industries, job market trends, and salary expectations to aid in decision-making.
5. Allow users to create profiles to save their assessment results, track progress, and revisit recommendations over time.
6. Facilitate interaction among users through forums, discussion boards, or social features to foster a supportive community.

4. Social Cause (01)

Maternal and Child Health

Maternal and child health is a critical concern in many parts of the world, including India. Despite significant progress in recent years, there are still challenges related to

maternal mortality, infant mortality, and overall maternal and child well-being. Key issues include inadequate access to quality healthcare, nutrition, immunisation, and prenatal care, which can result in adverse health outcomes for mothers and children. Create a platform that addresses maternal and child health by implementing comprehensive interventions and software solutions to improve healthcare access, awareness, and outcomes for mothers and children.

Key Features:

1. Provide prenatal care information, checklists, appointment reminders, and educational resources about nutrition, hygiene, and prenatal health.
2. Create a digital health record system for pregnant women that tracks their health status, prenatal visits, and vital signs, ensuring timely interventions and reducing maternal complications.
3. Implement an immunization tracking feature that reminds parents about their child's vaccination schedule, provides information on vaccine safety, and connects them to nearby vaccination centres.
4. Develop a nutrition and growth tracking feature that allows parents to monitor the growth and nutritional status of infants and young children, providing guidance on appropriate feeding practices.
5. Implement an emergency response feature in the app, allowing users to request immediate medical assistance in cases of complications during pregnancy or childbirth.
6. Encourage community participation by creating a social platform within the app where users can connect, share experiences, and support one another.

5. Social Cause (02)

Inclusive Education for Students with Disabilities

In many educational systems worldwide, students with disabilities face significant barriers to accessing quality education. These barriers may include physical inaccessibility of school facilities, limited availability of assistive technologies, a lack of trained teachers, and social stigma and discrimination. These challenges result in the

exclusion of students with disabilities from mainstream educational settings, which hinders their educational and social development. Develop a platform that promotes inclusive education for students with disabilities through the implementation of comprehensive interventions and software solutions, enhancing access to healthcare, awareness, and outcomes for these students.

Key Features:

1. Ensure that students with disabilities have equal access to quality education in mainstream schools alongside their peers without disabilities.
2. Promote campaigns to raise awareness about the challenges faced by students with disabilities and promote inclusivity and acceptance.
3. Promote diversity and inclusion within the school environment, fostering a sense of belonging and respect for all students, regardless of their abilities.
4. Provide teachers and school staff with appropriate training and resources to effectively support students with disabilities and implement inclusive teaching practices.
5. Establish a platform for students with disabilities to connect, share experiences, and offer peer support.
6. Allow students, parents, and educators to report accessibility issues, discrimination, or other concerns through the platform.

6. Social Cause (03)

Sustainable Living App

Sustainability has become a critical global concern, with individuals and communities seeking ways to reduce their environmental footprint, conserve resources, and make eco-friendly choices in their daily lives. A sustainable living app aims to address this by providing users with tools, information, and incentives to adopt more sustainable practices. The problem at hand is the need for a comprehensive software solution that empowers users to lead more sustainable lives by making informed choices regarding energy consumption, waste reduction, transportation, and consumption patterns. This

app should serve as a one-stop solution for sustainable living, promoting eco-friendly behaviours and providing actionable insights.

Key Features:

1. Integrate a tool that allows users to calculate their carbon footprint based on their lifestyle choices, including transportation, energy consumption, and diet.
2. Offer sustainability challenges or goals for users to participate in, such as reducing plastic usage, conserving water, or using public transportation. Users can earn rewards or badges for completing challenges.
3. Allow users to track and visualise their resource consumption over time, such as electricity, water, and waste production, to encourage conscious consumption.
4. Provide information about local sustainability events, workshops, and community initiatives to encourage participation in sustainable activities within their region.
5. Create a social aspect where users can connect with like-minded individuals, share their achievements, and participate in sustainability discussions and forums.
6. Enable users to offset their carbon emissions by contributing to verified carbon offset projects, such as reforestation or renewable energy initiatives.

7. AI/ML (PS 01)

CCTV-Based AI/ML for Enhanced Safety and Productivity

Indian Railways, one of the world's largest railway networks, grapples with the daily challenge of managing millions of passengers and trains. The demands of crowd management, cleanliness, crime prevention, and work monitoring have grown exponentially with the increasing number of passengers and services. Traditional manual monitoring methods are time consuming, prone to human error, and often result in missed incidents. The integration of AI and ML technologies offers a transformative solution. AI-driven CCTV networks have the capacity to analyse vast data streams in real-time, providing valuable insights for crowd management, crime prevention, and work monitoring. This project aims to harness the power of AI/ML to revolutionise

Indian Railways, enhancing safety, efficiency, and passenger experience while mitigating challenges associated with the network's sheer scale and complexity.

Key Features:

1. Implement AI/ML-powered CCTV networks to enable real time monitoring of railway stations and trains, ensuring swift response to incidents.
2. Utilize AI to analyze passenger flow, detect overcrowding, and optimize crowd management strategies to enhance safety and efficiency.
3. Monitor and improve cleanliness and maintenance by automating work tracking and reporting, reducing the manual effort required.
4. Implement AI/ML algorithms to identify suspicious activities and potential security threats, bolstering crime prevention efforts.
5. Optimize resource allocation by using AI insights for staff deployment and maintenance scheduling.
6. Leverage AI/ML analytics to extract valuable insights from the vast amount of data generated by the railway network.

8. AI/ML (PS 02)

AI/ML-Powered Phishing Domain Detection

In the era of widespread phishing attacks, the need for a robust solution to identify malicious domains from newly registered websites is paramount. Our challenge is to develop an automated tool that leverages AI and ML, using open-source databases like WHOIS, to differentiate phishing domains from genuine ones. The tool should employ backend code and content analysis, as well as web page image comparison to assign probability scores for phishing resemblance. Evaluation will focus on the tool's accuracy in identifying phishing domains' proximity to genuine ones, its ability to swiftly detect new threats, and its user-friendly interface for various output formats. Join us in building a powerful defence against phishing attacks.

Key Features:

1. The system should automate the process of identifying phishing domains among newly registered websites, reducing manual effort and response time.
2. Utilise WHOIS databases to access registration information for domains, including registration date and owner details, to aid in the detection process.
3. Implement comparison of the content of web pages and identify similarities or differences between phishing and genuine sites.
4. Analyse web page images to distinguish between genuine websites and phishing sites that imitate the look and feel of the real ones.
5. Assign probability scores to domains based on how closely they resemble genuine domains, helping prioritise potential threats.
6. Ensure the tool can promptly detect new phishing domains as they emerge to stay ahead of evolving threats.

9. AI/ML (PS 03)

AI-Powered Traffic Signal Optimization System

Traffic congestion plagues urban areas, resulting in frustrating delays, increased fuel consumption, and environmental degradation. Traditional traffic signal systems rely on rigid schedules, exacerbating congestion during peak periods. We aim to tackle this pressing

problem by developing an AI-driven traffic signal control system capable of dynamically adjusting signal timings in response to real-time traffic conditions. Our objective is to prioritize the smooth and efficient flow of traffic, reducing wait times for commuters and alleviating the adverse impacts of congestion. Create a solution that not only eases urban traffic bottlenecks but also promotes sustainability and improves the quality of life in cities. Let's harness the power of AI to revolutionise urban transportation.

Key Features:

1. The system should continuously collect and analyze real-time traffic data from various sources, including traffic cameras, vehicle sensors, GPS devices, and historical traffic patterns.
2. Implement AI and machine learning models to predict traffic conditions and congestion patterns. These models should consider factors such as traffic volume, vehicle speed, congestion hotspots, and historical data.
3. The system should dynamically adjust traffic signal timings at intersections to optimize traffic flow, reduce congestion, and minimize waiting times for vehicles.
4. Incorporate a priority mechanism for emergency vehicles to ensure their quick passage through intersections, while still maintaining overall traffic flow.
5. Seamlessly integrate the AI-based system with existing traffic management infrastructure,

including traffic lights, sensors, and communication networks.

Prize Distribution

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Some Glimpse of the event

Registration Desk



Inauguration Ceremony





Internal Judging Round

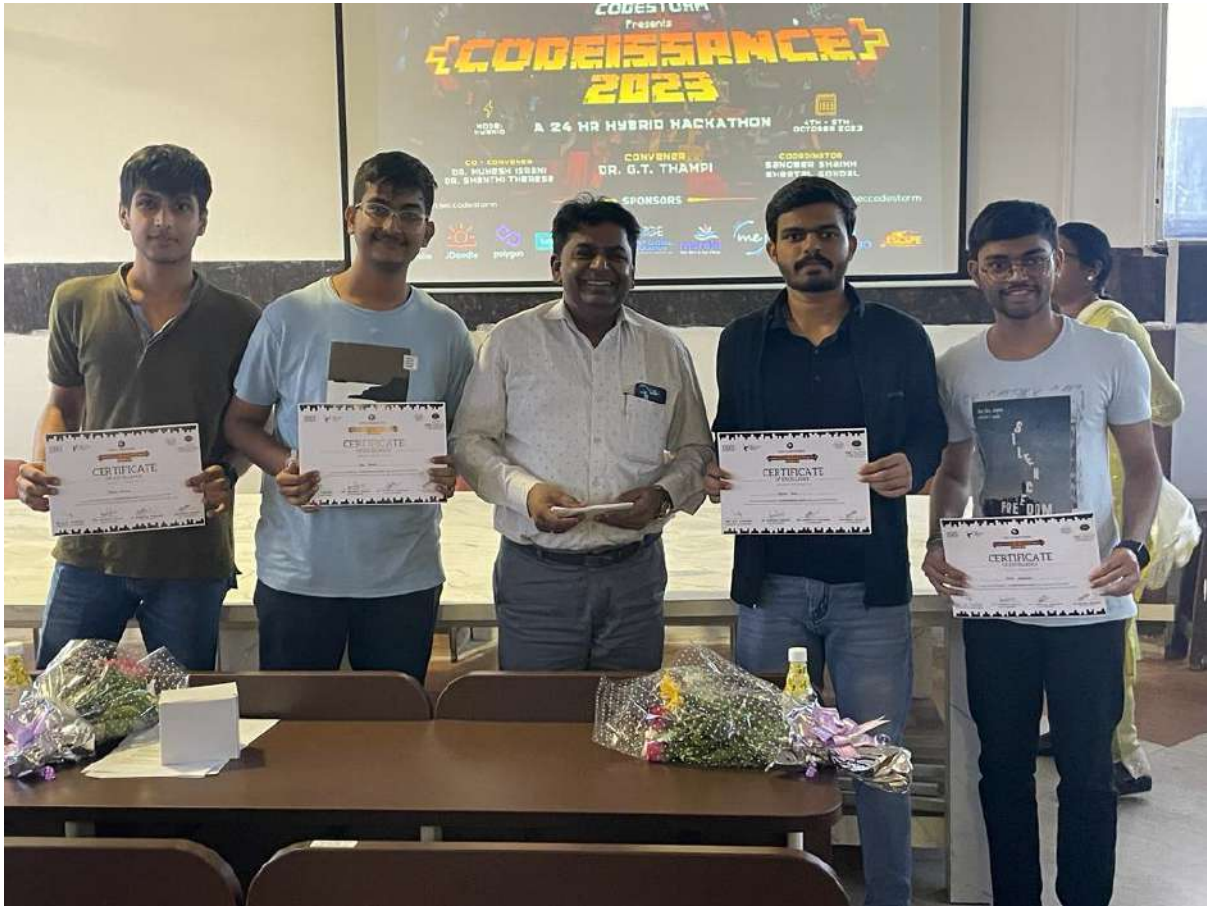




External Judging Round



Winners





Our Team

Codestorm committee



REPORT

Code Storm - TSEC

Codeissance'23 (24-Hour Hybrid Hackathon)

TSEC Code Storm organized Codeissance'23 a thrilling 24-hour hybrid hackathon on the 4th and 5th of October 2023. Codeissance'23, brought together coding enthusiasts for an intense coding experience. This dynamic event attracted participants from various colleges, with 316 individuals forming 79 teams, the hackathon provided a platform for showcasing innovative solutions across various domains. The combination of online and offline participation added a dynamic element to the hackathon, creating an engaging and competitive atmosphere. The event proved to be a remarkable experience, leaving a lasting impact on the coding community.

Event details

- Mode of conduct: Hybrid
- Team Size: 2 to 4 members
- Participation Fees: Rs. 400/- per team
- More details: <https://tseccodestorm.dev/>

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7. AI/ML (PS 01)

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9. AI/ML (PS 03)

AI-Powered Traffic Signal Optimization System

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Key Features:

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Inauguration Ceremony





Internal Judging Round

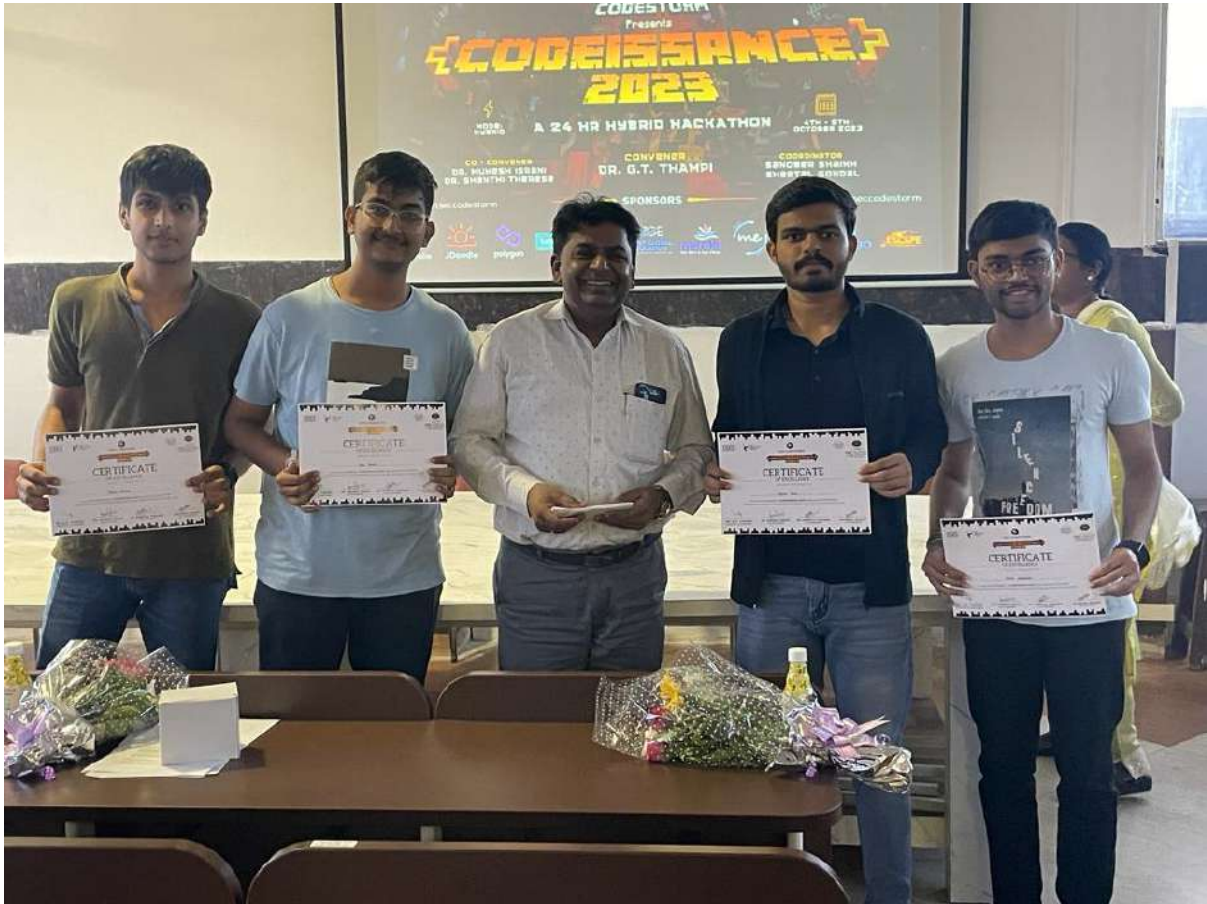




External Judging Round



Winners





Our Team

Codestorm committee



TSEC- Institution's Innovation Council Report: Awareness Talk on Entrepreneurship and Intellectual Property Rights.

Date: 16 October, 2023

Duration: 10:00 am - 3:00 pm

Mode: Online

Total Attendees: 60

Speaker: DR. Rahul Kapoor (Founder - TURNIP INNOVATIONS)

Topic: Awareness Talk on Entrepreneurship and Intellectual
Property Rights.

Introduction:

On October 16, 2023, the TSEC- Institution's Innovation Council convened a pivotal online seminar aimed at illuminating the realms of Entrepreneurship and Intellectual Property Rights (IPR). Dr. Rahul Kapoor, the esteemed Founder of TURNIP INNOVATIONS, graced the event as the distinguished speaker.

Key Takeaways:

- Dr. Rahul Kapoor expounded on the pivotal role of innovation in entrepreneurship, emphasizing the cultivation of a creative mindset to identify and seize opportunities.
- Attendees gained a nuanced understanding of Intellectual Property Rights, learning strategies to safeguard their innovations and creations through patents, trademarks, and copyrights.
- The seminar underscored the symbiotic relationship between entrepreneurship and IPR, illustrating how protecting intellectual assets bolsters business sustainability and competitiveness.
- Dr. Kapoor elucidated practical insights and real-world examples, empowering attendees to navigate the entrepreneurial landscape with confidence and acumen.

Agenda Highlights:

- The seminar commenced with an invigorating opening address, setting the stage for an enriching discourse on entrepreneurship and IPR.

- Session 1 delved into the foundational principles of entrepreneurship, elucidating the significance of vision, resilience, and adaptability in fostering entrepreneurial success.
- Session 2 provided a comprehensive overview of Intellectual Property Rights, covering the intricacies of patenting, trademarking, and copyrighting.
- The Q&A session facilitated lively exchanges, allowing participants to glean further insights and seek clarification on pertinent topics.

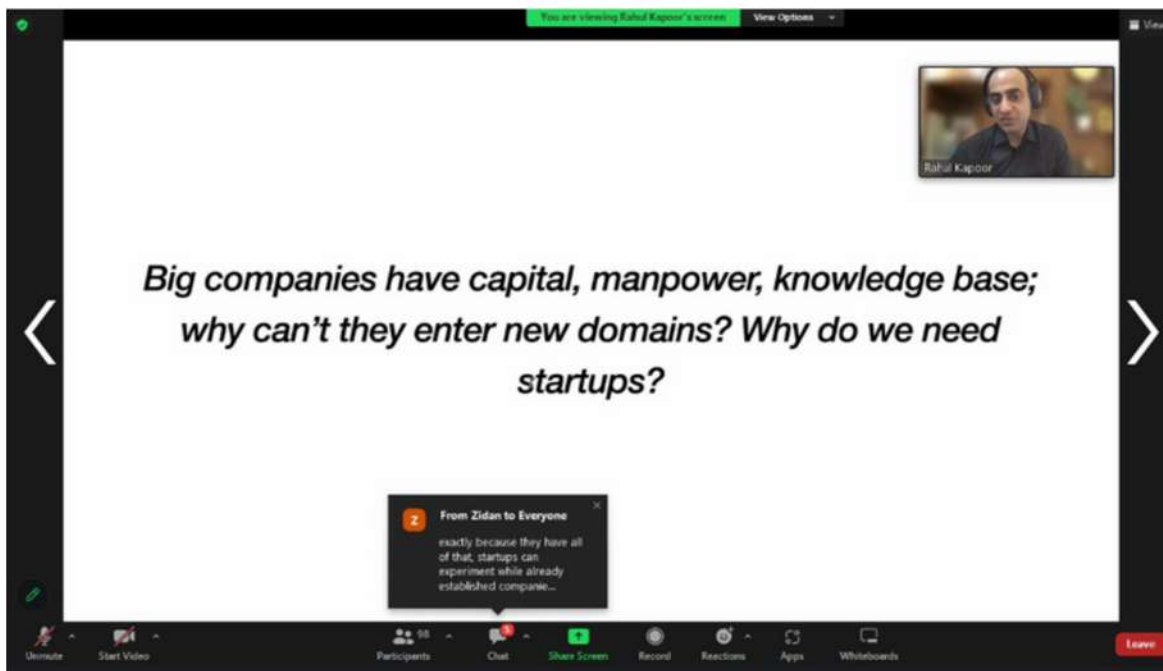
Next Steps:

- Encourage attendees to embark on their entrepreneurial journey, armed with newfound knowledge and inspiration garnered from the seminar.
- Foster ongoing engagement and learning through supplementary resources, workshops, and mentorship programs tailored to support aspiring entrepreneurs.
- Empower participants to proactively leverage Intellectual Property Rights to safeguard their innovations and propel their ventures toward success.

Conclusion:

The seminar on Entrepreneurship and Intellectual Property Rights epitomized a convergence of intellect, innovation, and aspiration, leaving an indelible impact on the 60 attendees. Dr. Rahul Kapoor's expertise illuminated the path for budding entrepreneurs, instilling them with the confidence and foresight to navigate the dynamic landscape of entrepreneurship while safeguarding their intellectual assets. As the TSEC- Institution's Innovation Council continues its mission to foster a culture of innovation and enterprise, the seeds sown during this seminar are poised to flourish, catalyzing a new wave of entrepreneurial endeavors and technological advancements.

Visual Insights:



Dr. G. T. Thampi
President - IIC, TSEC



Dr. Madhuri Rao
Vice President - IIC, TSEC

TSEC- Institution's Innovation Council Report: Entrepreneurship Awareness Drive [In Association with IIT KGP E-Cell]

Date: 23 October, 2023

Duration: 10:00 am - 3:00 pm

Mode: Offline

Total Attendees: 140

Speaker Panel:

Anand Jain, Co-Founder & Chief Product Officer at CleverTap.

Mukesh Jain, Chief Technology Officer at Capgemini.

Shashank Randev, Founder and Venture Capitalist at 100X.VC.

Devesh Chawla, Founder & CEO of Chatur Ideas and TEDx

Topic: Entrepreneurship Awareness Drive [In Association with IIT KGP E-Cell]

Introduction:

On October 23, 2023, the halls of the TSEC-Institution buzzed with anticipation as 140 aspiring entrepreneurs gathered for an immersive offline Entrepreneurship Awareness Drive. Teaming up with IIT KGP E-Cell, this event wasn't just about ideas; it was about action. With industry stalwarts Anand Jain, Mukesh Jain, Shashank Randev, and Devesh Chawla leading the charge, participants didn't just hear about entrepreneurship; they immersed themselves in its essence, exploring tangible pathways to turn dreams into reality. It wasn't just a seminar; it was a roadmap for those ready to roll up their sleeves and dive headfirst into the world of entrepreneurship.

Key Takeaways:

- Panelists shared candid insights into their entrepreneurial journeys, emphasizing the importance of resilience, adaptability, and a relentless pursuit of innovation.
- Attendees gained invaluable knowledge on navigating the ever-evolving entrepreneurial landscape, with discussions spanning ideation, market validation, funding, and scalability.

- Workshops provided hands-on guidance on critical aspects of entrepreneurship, including crafting compelling business models, building strategic partnerships, and harnessing digital tools for growth.
- Networking opportunities facilitated meaningful connections among attendees, fostering collaboration and the exchange of ideas beyond the event's duration.

Agenda Highlights:

- Opening Address (10:00 am): Welcoming remarks and introduction of esteemed panelists.
- Panel Discussion (10:30 am - 12:00 pm): Engaging dialogue exploring the triumphs and tribulations of entrepreneurship.
- Workshops (12:30 pm - 2:00 pm): Interactive sessions offering practical insights and actionable strategies for entrepreneurial success.
- Q&A Session (2:30 pm - 3:00 pm): A lively exchange of questions, answers, and shared experiences, fueling further inspiration and learning.

Next Steps:

- Empower participants to leverage newfound knowledge and connections to kickstart their entrepreneurial ventures.
- Offer ongoing support and resources, including mentorship programs, access to funding opportunities, and skill-building workshops.
- Foster a vibrant entrepreneurial ecosystem that celebrates innovation, fosters collaboration, and drives positive societal impact.

Conclusion:

The Entrepreneurship Awareness Drive transcended its role as a mere event, emerging as a transformative catalyst for the budding entrepreneurs in attendance. By combining insightful discussions, hands-on workshops, and meaningful networking opportunities, the event laid the groundwork for a community of trailblazers poised to shape the future of entrepreneurship. As the TSEC-Institution's Innovation Council and IIT KGP E-Cell continue their mission to nurture the entrepreneurial spirit, the ripple effects of this event are bound to reverberate across industries, driving innovation and prosperity for years to come.

Visual Insights:



Dr. G. T. Thampi
President - IIC, TSEC



Dr. Madhuri Rao
Vice President - IIC, TSEC

One Week *ONLINE* VALUE ADDED COURSE
on
APPLIED STATISTICS AND SOFTWARE TOOLS
FOR DATA SCIENCE

Organized and conducted by
Department of Computer Engineering,
Thadomal Shahani Engineering College

Date: 10th July 2023 to 15th July 2023

Convener: Dr. G. T. Thampi

Co-convener: Dr. Tanuja Sarode

Coordinators: 1. Mr. Vaibhav Ambhire
2. Ms. Sonali Jadhav

Metamorphosis into a center of excellence in higher education and enterprise computing to nurture and facilitate the learners who ought to be the creams of society in terms of their irresistible ambition to be part of entities inventing breakthrough technologies to further the cause of mankind through emerging technologies

Department Vision

Registration Link

<https://forms.gle/r4F7UAKwkvvbMqr4A>

Registration Fees

No Registration Fees

Limited seats are available

Last Date to Register

1st July 2023

Coordinators

1. Mr. Vaibhav Ambhire
Assistant Professor



7276640964



vaibhav.ambhire@thadomal.org

2. Ms. Sonali Jadhav
Assistant Professor



8652525206



sonali.jadhav@thadomal.org



Thadomal Shahani Engineering College

Organizes

ONLINE VALUE ADDED COURSE

on

APPLIED STATISTICS AND SOFTWARE TOOLS

FOR DATA SCIENCE

10th July to 15th July 2023



Convener

Dr. G. T. Thampi
Principal, TSEC

Co – Convener

Dr. Tanuja Sarode
Head, Department of
Computer Engineering, TSEC

Under the
Department of
Computer Engineering

Resource Persons

1. Ms. Uttara Athawale
(Prof. of Mathematics, Statistics and Computer Graphics)

2. Dr. Archana Patankar
(Professor, TSEC)

3. Dr. Bhushan Jadhav
(Assistant Professor, TSEC)

4. Dr. Darshan Ingle
(Assistant Professor, TSEC)

5. Mr. Hriday Purohit
(Ex-Data Science Intern
@H2O.ai)

6. Ms. Vijaya Padmadas
(Assistant Professor, TSEC)

- Introduction to Data Science
- **Data Exploration:** Descriptive Statistics, Univariate and Multivariate Exploration
- Inferential Statistics: Various forms of distribution
- Test Hypothesis, Central Limit Theorem
- Type I, Type II Errors, ANOVA
- Methodology and Data Visualization: Overview of Model Building, Cross Validation, Univariate and Multivariate Visualization
- Anomaly Detection: Outlier and Outlier Detection Methods, SMOTE
- Time Series Forecasting: Smoothing Methods, Time Series Analysis, Performance Evaluation
- Applications of Data Science: Predictive Modeling, Time Series Forecasting

Department Mission

Course Objectives

- To understand the data science techniques for different applications
- To apply different statistical models in the domain of data science
- To understand data preparation, exploration and visualization techniques.
- To model and evaluate different supervised/unsupervised learning techniques

1. Building state of art laboratories with the help of internal accruals / government funding / industry funding
2. Collaborative research initiative with premier research organizations in the country
3. Subjecting and initiating learners to entrepreneurship training program and nascent technologies which shall be beyond curriculum
4. Developing instructional content leveraging new findings of cognitive load theories and visual learning
5. Initiating public private partnership to setup startup ventures to help learners evolve as entrepreneurs in ICT
6. Extensively promote participation in application building competition getting organized externally and internally to enable learner to apply theoretical understanding in real time functional area



Certificate

- **E-certificate will be issued by TSEC for all participants**



THADOMAL SHAHANI ENGINEERING COLLEGE
Department of Computer Engineering

**Online Value Added Course on
“APPLIED STATISTICS
AND
SOFTWARE TOOLS FOR DATA SCIENCE”
10th July to 15th July, 2023**

Date	Time	Topic	Resource Person
DAY-1			
10th July 2023, Monday	10:00 am to 10:30 am	Inauguration	
	10:30 am to 12:30 pm	<ul style="list-style-type: none"> • Introduction to Data Science • Data Science Process • Motivation to use Data Science Technique • Overview of Data Preparation 	Ms. Vijaya Padmadas
	12:30 pm to 1:15 pm	Lunch Break	
	1:15 pm to 3:15 pm	Descriptive Statistic: <ul style="list-style-type: none"> • Univariate Exploration 	Dr. Archana Patankar
	3:15 pm to 3:30 pm	Tea Break	
	3:30 pm to 4:30 pm	Descriptive Statistic: <ul style="list-style-type: none"> • Multivariate Exploration 	Dr. Archana Patankar
DAY-2			
11th July 2023, Tuesday	10:00 am to 12:30 pm	Inferential Statistics Overview of Various forms of distributions: Normal, Poisson, Test Hypothesis.	Ms. Uttara Athawale
	12:30 pm to 1:15 pm	Lunch Break	
	1:15 pm to 3:15 pm	Central limit theorem, Confidence Interval, Z-test, t-test	Ms. Uttara Athawale
	3:15 pm to 3:30 pm	Tea Break	
	3:30 pm to 4:30 pm	Type-I, Type-II Errors, ANOVA	Ms. Uttara Athawale

THADOMAL SHAHANI ENGINEERING COLLEGE

Department of Computer Engineering

DAY-3			
12th July 2023, Wednesday	10:00 am to 12:30 pm	Methodology: Overview of model building, Cross Validation, K-fold cross validation, leave-1 out, Bootstrapping	Dr. Bhushan Jadhav
	12:30 pm to 1:15 pm	Lunch Break	
	1:15 pm to 3:15 pm	Data Visualization: <ul style="list-style-type: none"> • Univariate Visualization: Histogram, Quartile, Distribution Chart 	Dr. Bhushan Jadhav
	3:15 pm to 3:30 pm	Tea Break	
	3:30 pm to 4:30 pm	Data Visualization: <ul style="list-style-type: none"> • Multivariate Visualization: Scatter Plot, Scatter Matrix, Bubble chart, Density Chart • Roadmap for Data Exploration 	Dr. Bhushan Jadhav
DAY-4			
13th July 2023, Thursday	10:00 am to 12:30 pm	Anomaly Detection: <ul style="list-style-type: none"> • Outliers, Causes of Outliers, Anomaly detection techniques, Outlier Detection using Statistics 	Mr. Hriday Purohit
	12:30 pm to 1:15 pm	Lunch Break	
	1:15 pm to 3:15 pm	Anomaly Detection: <ul style="list-style-type: none"> • Outlier Detection using Distance based method 	Mr. Hriday Purohit
	3:15 pm to 3:30 pm	Tea Break	
	3:30 pm to 4:30 pm	Anomaly Detection: <ul style="list-style-type: none"> • Outlier detection using density-based methods, SMOTE 	Mr. Hriday Purohit
DAY-5			
14th July 2023, Friday	10:00 am to 12:30 pm	Applications of Data Science : <ul style="list-style-type: none"> • Predictive Modeling 	Dr. Darshan Ingle
	12:30 pm to 1:15 pm	Lunch Break	
	1:15 pm to 3:15 pm	Applications of Data Science : <ul style="list-style-type: none"> • Time series forecasting 	Dr. Darshan Ingle
	3:15 pm to 3:30 pm	Tea Break	
	3:30 pm to 4:30 pm	Applications of Data Science : <ul style="list-style-type: none"> • Time series forecasting – Case Study 	Dr. Darshan Ingle

THADOMAL SHAHANI ENGINEERING COLLEGE

Department of Computer Engineering

Day-6			
15th July 2023, Saturday	10:00 am to 12:30 pm	Time Series Forecasting : Smoothing Methods	Ms. Uttara Athawale
	12:30 pm to 1:15 pm	Lunch Break	
	1:15 pm to 3:15 pm	Time Series Forecasting : Performance Evaluation	Ms. Uttara Athawale
	3:15 pm to 3:30 pm	Tea Break	
	3:30 pm to 4:30 pm	Evaluation Test	
	4:30 pm to 5:00 pm	Valedictory and Vote of Thanks	

Thadomal Shahani Engineering College
Computer Engineering Department

One Week Value Added Course on
APPLIED STATISTICS AND SOFTWARE TOOLS FOR DATA SCIENCE

Date: 10th July to 15th July 2023

Name of the Student	Class	Roll No	Email ID
Aakash Kulthia	TE	2104096	askulthia@gmail
Adil Shaikh	BE	2003159	adil786shaikh47@gmail.com
Amit Naval Gupta	TE	2104055	amitgupta00102@gmail.com
Ayush Bhanushali	TE	2104018	ayushbhanushali2011@gmail.com
Chaitanya Kakade	TE	2104076	kakadechaitanya77@gmail.com
Chetana Bhojwani	TE	2104021	Bhojwanichetana@gmail.com
Darshan lasi	BE	2003100	darshanlasi123@gmail.com
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Yash Motwani	TE	2104120	yashmotwani2003@gmail.com
Yash Vaskar	BE	2003185	yashvaskar7112002@gmail.com
Pratik Kithani	TE	2003094	Pratikkithani3112@gmail.com

Resource Persons

Ms. Uttara Athawale

Self Employed

Maharashtra, India

Experience

1. GNIMS Business School
Visiting Professor
Oct 2021 – Present 1 year 4 months
Mumbai, Maharashtra, India
2. Pillais College of Arts Commerce & Science Graphic
Member Board of Studies (Mathematics)
Pillais College of Arts Commerce & Science
Sep 2019 – Present 3 years 5 months
New Panvel
3. Bharati Vidyapeeth Institute Of Mangement & Information Technology, (MCA Dept.)
Assistant Professor
Dec 2009 - Mar 2021 11 years 4 months
4. Sterling Institute Of Management Studies
Lecturer
Jul 2008 - Dec 2009 1 year 6 months
Nerul, Navi Mumbai
5. Pillai's College Of Arts Commerce and Science
Lecturer
Sep 2002 - Jul 2008 5 years 11 months
Sector 16, New Panvel

Dr. Archana Patankar

Professor in Computer Engineering Dept. at Thadomal Shahani Engineering College, Mumbai

- Designation: Professor
- Educational Details:
 - Ph.D. (Computer Engineering) in 2011
 - ME (Computer Engineering), (VJTI) Mumbai, 1999
 - BE (Computer Engineering), (Walchand College, Sangli) 1996
- Area of Specialization:
 - Machine Learning
 - Deep Learning
 - Computer vision
 - Image Processing
- Teaching Experience: 23 + Years
- Total Experience: 23 + Years
- No of Papers Published in International Journals/Conferences: 95+
- FDP / Conferences/ Workshops (Attended / Organized): 20
- Certification / Diploma Courses Attended: 3
- Membership of Professional Organizations: (ISTE and CSI)
- Ph.D. Students Guided: 5

Dr. Bhushan Jadhav

Assistant Professor in Artificial Intelligence & Data Science Department at Thadomal Shahani Engineering College, Mumbai

- Designation: Assistant Professor
- Educational Details:
 - Ph.D. (Technology)
 - ME (Computer Engineering)
 - BE (Computer Engineering)
- Area of Specialization:
 - Artificial Intelligence and Data science,
 - Python programming
 - R Programming
 - Big data analytics
 - Cloud Computing and DevOPs
- Teaching Experience: 15 Years
- Total Experience: 15 Years
- No of Papers Published in International Journals/Conferences: 11
- Books Published: 10
- FDP / Conferences/ Workshops (Attended / Organized): 31/16
- Certification / Diploma Courses Attended: 18
- Membership of Professional Organizations: (ISTE)

Dr. Darshan Ingle

Assistant Professor in Information Technology Department at Thadomal Shahani Engineering College, Mumbai

- Designation: Assistant Professor
- Educational Details:
 - Ph.D. (Computer Science and Engineering)
- Area of Specialization:
 - Artificial Intelligence
 - Machine Learning
 - Natural Language Processing
 - Deep Learning
 - Tableau
 - Power BI
 - Big data analytics
- Teaching Experience: 12 Years
- Total Experience: 12 Years
- No of Papers Published in International Journals/Conferences: 13
- FDP / Conferences/ Workshops (Attended / Organized): 25
- Certification / Diploma Courses Attended: 6
- Membership of Professional Organizations: (ISTE)

Mr. Hriday Purohit

Ex-Data Science Intern | H2O.ai

- Educational Details:
 - Pursuing MS (Computer Engineering)
 - BE (Computer Engineering)

Experience

1. ZScalar

Working from last six months

- Natural Language Processing
(Research & Development)
- Associate System Engineer
Apr 2021 - Apr 2022 1 year 1 month
Bengaluru, Karnataka, India

2. Rutgers

Part-time lecturer in the domain of Machine Learning

3. H2O.ai

Data Science Intern

- Worked on Natural Language Processing Projects

Ms. Vijaya Padmadas

Assistant Professor in Computer Engineering Department at Thadomal Shahani Engineering College, Mumbai

- Designation: Assistant Professor
- Educational Details:
 - ME (Computer Engineering)
 - BE (Computer Engineering)
- Area of Specialization:
 - Semantic Web
 - Data Science
 - Data Warehousing & Mining
 - Big data analytics
- Teaching Experience: 23 Years
- Total Experience: 23 Years
- No of Papers Published in International Journals/Conferences: 6
- FDP / Conferences/ Workshops (Attended / Organized): 8
- Certification / Diploma Courses Attended: 4

Certificate of Participation

This is to certify that **NIYATI SAVANT** has attended the workshop on **“Applied Statistics and Software Tools for Data Science”** held from 10th July 2023 to 15th July 2023 under the **VALUE ADDED COURSE** organized by Computer Engineering Department of Thadomal Shahani Engineering College, Bandra, Mumbai.



Mr. Vaibhav Ambhire
Assistant Professor
Coordinator



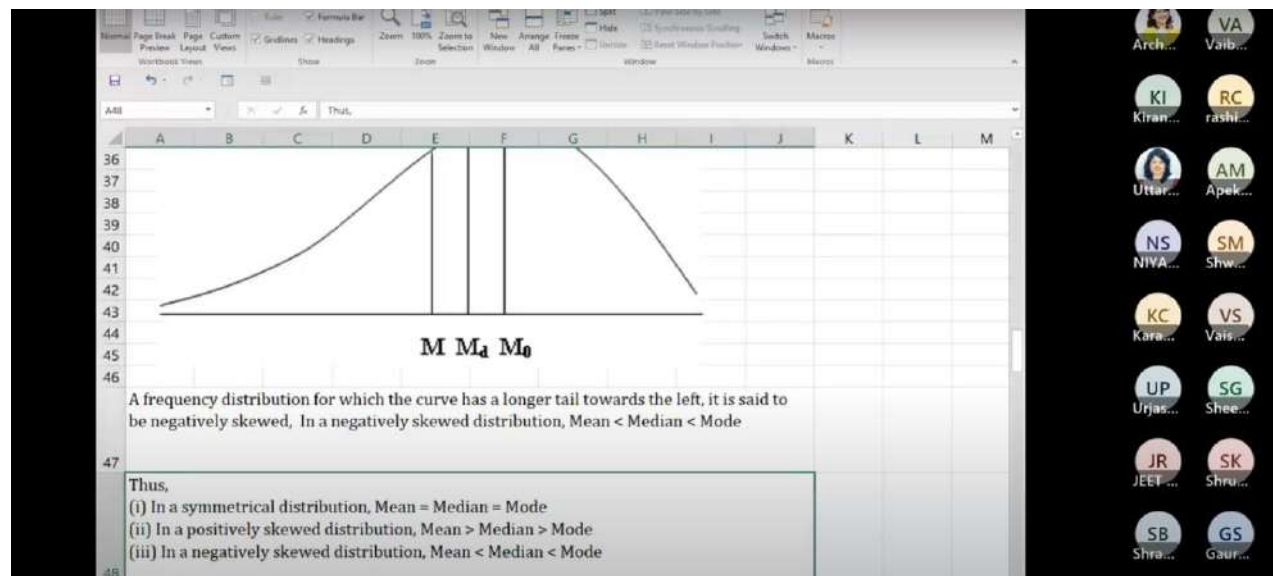
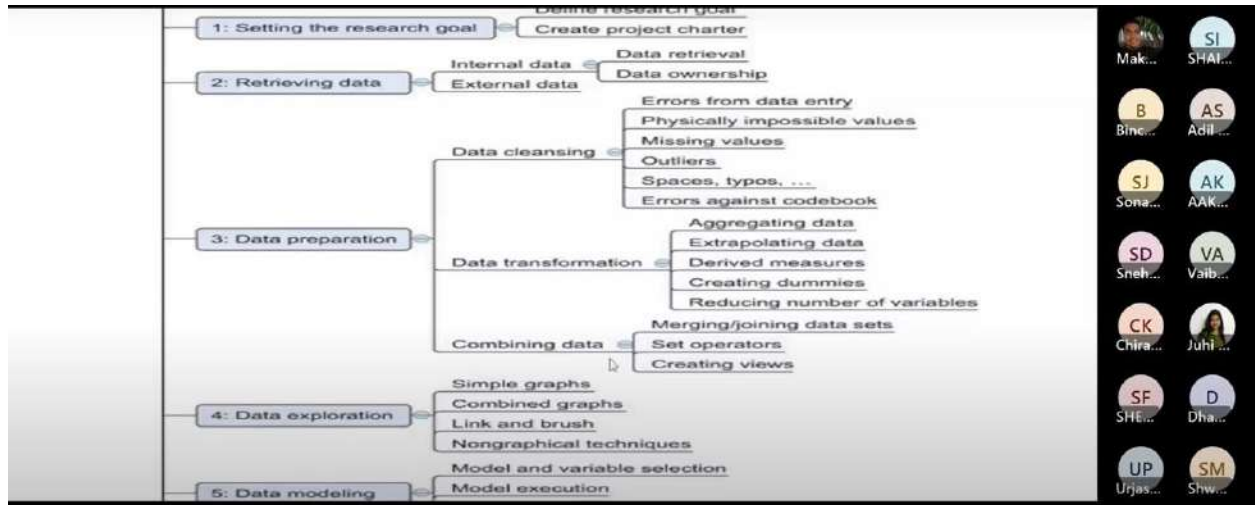
Ms. Sonali Jadhav
Assistant Professor
Coordinator



Dr. Tanuja Sarode
HoD – Computer Engg. Dept.
Co-Convenor



Dr. G. T. Thampi
Principal, TSEC
Convenor



Training models

Dr. Darshan Ingle (Guest)

Dr. Darshan Ingle ...

SJ Sona... JR JEET... MB Mee... Yash... See... VK VISH... DK Dev... VA Vaib... MG MAR... SK Shru... SD Selo... +35

DL Dars... SB SOM... Nam... VA Vaib... SHAI... DC Dha... AK AMA... KR KAK... RC RAS... DB DHE... TL THA... VB VAIS... AN AMI... SK Shru... AK AAK... Juhi... SK Sahil... +22

Geetanjali Kalme (Guest)

Archana Patankar

Parul Jain

Shilpa Ingoley

Sonali Jadhav

Makhija Harsh

Shradha Birje

Kiran Israni

Understanding Causes of Outliers

Data entry errors
Errors made when entering data into a system, such as typos or incorrect values

Sampling errors
Errors made when selecting a sample from a population, such as bias or incorrect sample size

Natural variations
Variations in data due to natural causes, such as weather or seasonal changes

Outliers can be caused by a variety of factors, including data entry errors, sampling errors, and natural variations.

Participants: DK Dev..., JZ Jaya..., RM Resh..., VS Vais..., SB Shra..., Nab..., UP Urjas..., HP Hrid..., VA Vaib..., SD sneh..., See..., GK Geet..., SJ Sona..., KP KRIS..., B Bine..., AN AMI..., Juhi ... +32

Friday Purohit (Guest)

Microsoft Teams

32:23

Chat People Raise React View Q&A Apps More Camera Mic Share Leave

Unmute (Ctrl+Shift+M)

Participants: SB, Makhija Ha..., SOMVA BA..., SB, SJ, Shracha Bir..., Sonali Jadh..., Parul Jain, Shilpa Ingo..., AM, ALI MEHTAB, 47 Participants

Participants in grid: Urjahee Patil (Guest), Kiran I..., Geetanjali Kalrie (Guest), KRISHNA PUNJABI, Dr. Ta..., Sitad..., Ali M..., Yash..., Juhi G..., Parul J..., Archi..., Gaur..., Darshan Lodi (Guest), Makhija Harsh..., Apaksha Mohite (Guest), Sonali..., Shilpa..., Sahil Khatri (Guest)

TSEC- Institution's Innovation Council Report: Ideathon 2024

Date: 2-3 February, 2024

Duration: 10:00 am - 3:00 pm

Mode: Offline

Total Attendees: 100

Judges: Ms. Bhumika Sukhadia (Co-founder, OPE Innovation Lab)
Mr. Anil Mehta (Network Architect and Engineering Manager,
RapidSOS)

Mr. Uday Bhatia (Founder, Projectivity)

Internal Judges: Dr. Seema Kolkur, Dr. Poonam Soni, Prof. Uttara
Bhatt, Prof. Sachi Natu

Topic: Ideathon 2024

Introduction:

The Institutions Innovation Council of TSEC organized Ideathon 2024, an event aimed at fostering creativity and entrepreneurship among university students. Participants were tasked with creating business ideas from randomly assigned chits within an hour, followed by presentations to internal and external judges.

Key Takeaways:

- **Creativity and Innovation:** Participants demonstrated their ability to think creatively under pressure, generating unique business ideas from random prompts.
- **Entrepreneurial Skills:** The event provided a platform for students to develop and showcase their entrepreneurial skills, from idea generation to pitching.
- **Feedback and Networking:** Engagement with internal and external judges facilitated valuable feedback and networking opportunities for participants to refine their ideas and expand their connections.

Agenda Highlights:

Day 1:

- **Chit Selection & Team Formation:** Students randomly selected chits and formed diverse teams for creative perspective.
- **Brainstorming Session:** Teams used prompts to generate innovative ideas within the timeframe.

- Internal Judging: Judges evaluated presentations for quality and feasibility, offering constructive feedback.
- Shortlisting: Top teams advanced based on performance, reflecting promising concepts.

Day 2:

- Final Presentations: Shortlisted teams pitched refined ideas to external judges, highlighting innovation, market potential, and scalability.
- External Evaluation: Judges, including industry experts, assessed presentations, providing valuable insights.
- Winner Selection: Judges chose winners based on idea strength, feasibility, and real-world impact potential.
- Winner Announcement: The Event concluded with the announcement of winning teams, celebrating creativity and entrepreneurial prowess.

Next Steps:

- Support for Winning Teams: The Institutions Innovation Council will provide support and guidance to winning teams to further develop their ideas and potentially bring them to market.
- Feedback Incorporation: Feedback from judges will be compiled and shared with all participants to help them refine their ideas and enhance their entrepreneurial skills.
- Future Events: The success of Ideathon 2024 highlights the importance of organizing similar events in the future to continue fostering innovation and entrepreneurship among students.

Conclusion:

Ideathon 2024 proved to be a successful platform for nurturing creativity, fostering entrepreneurial skills, and promoting innovation among university students. The event provided participants with valuable learning experiences, feedback, and networking opportunities, laying the foundation for future entrepreneurial endeavors. The Institutions Innovation Council looks forward to organizing more such events to inspire and empower the next generation of innovators and entrepreneurs.

Visual Insights:



Visual Insights:



Dr. G. T. Thampi
President - IIC, TSEC



Dr. Madhuri Rao
Vice President - IIC, TSEC

Report on ISTE Approved One-Week Online Short-Term Training Program on Graph Data Science with Hands-On in Neo4j

Duration: 8th January 2024 – 13th January 2024
Convener: Dr. G. T. Thampi
Co-Convener: Dr. Madhuri Rao
Coordinator: Dr. Himani Deshpande
No. of participants: 22 + 45

The ISTE-approved One-Week Online Short-Term Training Program (STTP) on "**Graph Data Science with Hands-On in Neo4j**" was successfully conducted from **8th January 2024 to 13th January 2024**. The program was organized under the guidance of **Dr. G. T. Thampi** as Convener, **Dr. Madhuri Rao** as Co-Convener, and **Dr. Himani Deshpande** as the Coordinator. A total of **22 faculty members** and **45 students** from various engineering colleges participated in the program, making it an engaging and insightful learning experience.

The primary objectives of the STTP were to familiarize participants with the **concepts of Graph Data Science** and its applications, explore **tools and practices** used in this domain, and enable participants to build strategies for **integrating Graph Data Science in AI-driven applications** to enhance efficiency and productivity. The program was structured to provide a blend of theoretical knowledge and practical experience, ensuring that participants gained comprehensive insights into the field.

The course content covered a wide range of topics, including **Fundamentals of Graph Database, Data Modeling with Graph Databases, Advanced Graph Queries Using Neo4j, Graph Database Administration, Graph Algorithms and Analytics, Graph Visualization and Exploration, and Performance Optimization in Graph Databases**. Each session provided participants with hands-on opportunities to apply the concepts learned, especially using Neo4j, a popular graph database platform.

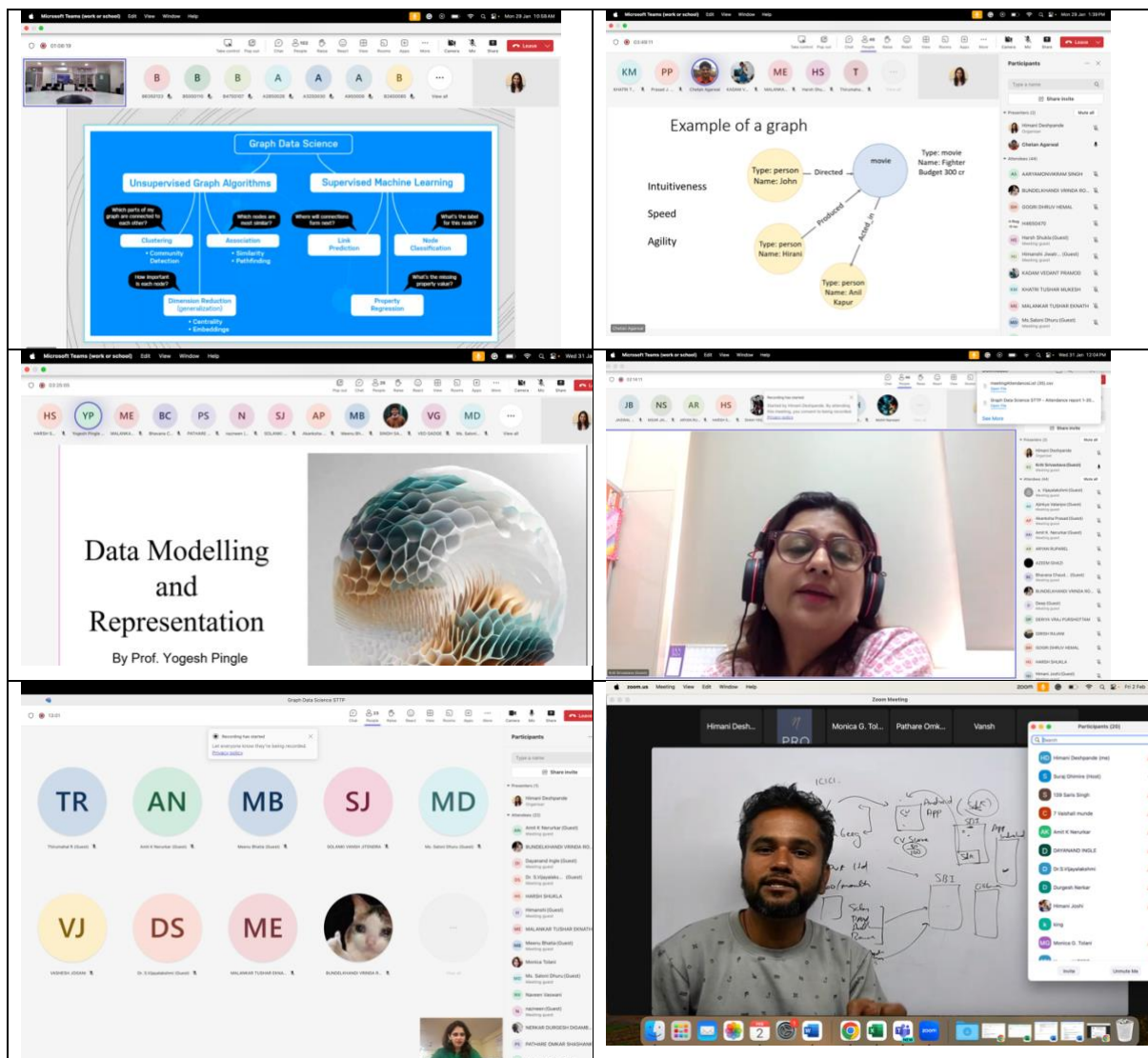
The program commenced with an introductory session highlighting the importance of Graph Data Science in modern AI-driven applications. Expert speakers delivered lectures on advanced graph algorithms and their applications in solving real-world problems. Participants engaged in interactive hands-on sessions that enabled them to practice data modeling, querying, and optimization techniques. The program concluded with a focus on **performance optimization strategies**, equipping participants to manage large-scale graph databases effectively.

The feedback from participants was overwhelmingly positive. They appreciated the program's structured content, expert delivery, and practical approach. The hands-on sessions were particularly commended for bridging the gap between theoretical knowledge and practical

application. Many attendees expressed their eagerness to integrate Graph Data Science into their academic and research initiatives.

In conclusion, the STTP on **Graph Data Science with Hands-On in Neo4j** successfully achieved its objectives by equipping participants with the knowledge and skills required to apply Graph Data Science in real-world applications. It served as a platform for knowledge sharing, collaboration, and exploration of advanced concepts in this emerging field, leaving a lasting impact on the participants.

Screenshots from the various sessions of STTP



TSEC- Institution's Innovation Council Report: SecureTomorrow: Innovate & Design Cyber Futures

Date: 16 March, 2024

Duration: 10:00 am - 3:00 pm

Mode: Offline

Total Attendees: 140

Speaker Panel:

Dharmendra Parmar, Cyber security manager [Cyberfrat Pvt Ltd]

Jatinkumar Modh, Founder & Principal Consultant [TransConST]

Ravi Kumar, AVP - IT Cyberdefense [CDSL]

Vaibhav Lakhani, Consultant [Ernst & Young]

Topic: SecureTomorrow: Innovate & Design Cyber Futures

Introduction:

On March 16, 2024, the Institution's Innovation Council at TSEC organized the "SecureTomorrow: Innovate & Design Cyber Futures" symposium. Held offline from 10:00 am to 3:00 pm, the event gathered 140 attendees interested in cybersecurity innovation and design thinking. Distinguished speakers from various sectors shared their insights, making the symposium a valuable platform for knowledge exchange and networking.

Key Takeaways:

- **Emerging Cybersecurity Trends:** Speakers highlighted the latest trends in cybersecurity, including the rise of AI-driven threats, the importance of data privacy, and the challenges posed by IoT devices.
- **Innovation in Cyber Defense:** Presenters emphasized the need for innovative approaches to cyber defense, such as leveraging blockchain technology, implementing zero-trust architectures, and adopting proactive threat hunting strategies.

- Role of Design Thinking: The integration of design thinking methodologies into cybersecurity practices was discussed extensively. Attendees learned how design thinking can foster user-centric security solutions and enhance overall cyber resilience.

Agenda Highlights:

- 10:30 am: Keynote Address by Dr. G. T. Thampi Dr. Thampi delivered an insightful keynote speech, setting the tone for the symposium and providing valuable perspectives on the current state and future trends of cybersecurity.
- 10:45 am - 11:15 am: Presentation by Mr. Vaibhav Lakhani Mr. Lakhani shared his expertise on a topic critical to cybersecurity, offering actionable insights and practical strategies for the audience to consider.
- 11:15 am - 11:45 am: Presentation by Mr. Ravi Kumar Mr. Kumar delved into a key aspect of cyber defense, providing attendees with valuable knowledge and innovative approaches to address emerging threats.
- 11:45 am - 12:00 pm: Short Break Attendees had the opportunity to recharge and network briefly before the next session.
- 12:00 pm - 12:30 pm: Presentation by Mr. Dharmendra Parmar Mr. Parmar delivered a comprehensive presentation, sharing his expertise and insights on a crucial topic relevant to cybersecurity innovation.
- 12:30 pm - 1:00 pm: Presentation by Mr. Jatinkumar Modh Mr. Modh captivated the audience with his presentation, offering unique perspectives and practical solutions to enhance cyber resilience.
- 1:00 pm - 1:15 pm: Fun Activities by Cyberfrat Cyberfrat organized engaging activities, providing attendees with a refreshing break while fostering a sense of community and camaraderie.
- 1:15 pm - 1:20 pm: Vote of Thanks by Prof. Amit K. Nerurkar Prof. Nerurkar expressed gratitude to the speakers, organizers, and attendees for their contributions to the symposium, wrapping up the event on a positive note of appreciation and collaboration.

Next Steps:

- Implementation of Innovative Solutions: Participants are encouraged to apply the insights gained from the symposium to innovate and design effective cybersecurity solutions tailored to their organizations' needs.

- **Continuous Learning and Collaboration:** The symposium laid the foundation for ongoing collaboration among cybersecurity professionals, fostering a community-driven approach to addressing evolving threats.
- **Exploration of Design Thinking Principles:** Attendees are encouraged to further explore the application of design thinking principles in cybersecurity through workshops, training programs, and collaborative projects.

Conclusion:

The "SecureTomorrow: Innovate & Design Cyber Futures" symposium organized by TSEC's Institution's Innovation Council provided a platform for cybersecurity professionals to explore innovative approaches to cyber defense and incorporate design thinking into their practices. With insightful discussions, expert presentations, and engaging networking opportunities, the event served as a catalyst for advancing cybersecurity innovation and shaping secure futures in the digital age. We look forward to continued collaboration and shared learning in our collective journey towards a more resilient cyber landscape.

Visual Insights:






Dr. G. T. Thampi
President - IIC, TSEC




Dr. Madhuri Rao
Vice President - IIC, TSEC

TSEC- Institution's Innovation Council Report: Session on Technical Advancements and Innovation

Date: 15th September, 2023

Duration: 10:00 am to 3:00 pm

Mode: Offline/Hybrid

Topic: Session on Technical Advancements and Innovation

Introduction

The recent session on "Technical Advancement and Innovation" provided a dynamic platform for industrial experts to converge and discuss pressing issues, provide valuable feedback, and brainstorm innovative solutions within the engineering sector. The event attracted leading intellectuals from various engineering fields who shared deep insights and forward-thinking perspectives that are poised to shape the future of engineering. The session also featured a vibrant Q&A segment, allowing participants to engage directly with experts, enriching their understanding, and sparking meaningful discussions.

Key Takeaways:

- Experts emphasized the importance of adopting emerging technologies to drive innovation.
- Discussions highlighted the role of interdisciplinary collaboration in solving complex engineering problems.
- Participants gained insights into the latest trends and challenges in the engineering field.
- The session underscored the need for sustainable practices in engineering advancements.
- There was a strong focus on the future of automation and its impact on the workforce.

Agenda Highlights

- Opening remarks and introduction to this year's theme.
- Panel discussion on the latest advancements in technology and engineering.
- Presentation of case studies showcasing successful innovations in engineering.
- Interactive Q&A session with industry experts.
- Closing remarks emphasizing future directions in technical innovation.

CONCLUSION

The session successfully brought together a diverse group of experts and participants, fostering a collaborative environment where innovative ideas and solutions were shared. The discussions and exchanges were not only thought-provoking but also instrumental in setting the stage for future advancements in the engineering field. Participants left with a wealth of knowledge and new perspectives, ready to contribute to the ongoing evolution of engineering through technical advancement and innovation.

Visual Insights:



Dr. G. T. Thampi
President - IIC, TSEC



Dr. Madhuri Rao
Vice President - IIC, TSEC

TSEC- Institution's Innovation Council Report: Motivational session by a successful innovator

Date: 20th October, 2023

Duration: 11:30 am - 4:30 pm

Mode: Offline

Total Attendees: 100

Speaker: Joshua Salins (Founder, Hobby Tribe)

Topic: Motivational session by a successful innovator

Introduction:

The Institutions Innovation Council of TSEC organized a motivational session for university students, featuring Joshua Salins, the Founder of Hobby Tribe. Joshua Salins, an accomplished entrepreneur and the mind behind Hobby Tribe, shared his journey, experiences, and insights with the attendees. His entrepreneurial success and innovative approach to hobby learning make him a compelling figure for aspiring young minds, aiming to inspire and educate students about entrepreneurship, innovation, and the potential of disruptive ideas in today's rapidly evolving landscape.

Key Takeaways:

- **Innovative Learning:** Joshua stressed the importance of accessible and affordable learning methods, emphasizing gamified platforms for skill development.
- **Entrepreneurial Mindset:** He encouraged students to cultivate creativity and resilience, essential traits for navigating entrepreneurial challenges.
- **Impactful Solutions:** Through real-world examples, Joshua showcased the potential of disruptive ideas in addressing contemporary challenges, inspiring students to think beyond conventional boundaries.

Agenda Highlights:

- Introduction to Joshua Salins and his entrepreneurial journey.
- Overview of Hobby Tribe's gamified learning platform and its impact.
- Discussion on the entrepreneurial mindset and the importance of innovation.

- Success stories and case studies demonstrating Hobby Tribe's effectiveness.
- Interactive Q&A session for students to engage with Joshua and delve deeper into entrepreneurship and innovation.

Next Steps:

- Entrepreneurial Exploration: Students are urged to delve into their entrepreneurial aspirations, utilizing resources provided by the Institutions Innovation Council and other platforms to further develop their ideas and initiatives.
- Utilizing Resources: They are encouraged to take advantage of available resources and support networks to refine their skills and knowledge in entrepreneurship and innovation.
- Hobby Learning: For those interested, exploring Hobby Tribe's platform offers an engaging and affordable avenue to discover new interests and develop skills in various hobbies.

Conclusion:

The motivational session by Joshua Salins catalyzed inspiring and empowering university students to embark on their entrepreneurial journeys. Hobby Tribe's innovative approach and Joshua's insights into entrepreneurship provided valuable lessons and encouragement for students to pursue their passions, think creatively and contribute meaningfully to society. The event exemplified the spirit of innovation and collaboration fostered by the Institutions Innovation Council in nurturing the next generation of entrepreneurial leaders.

Visual Insights:



Dr. G. T. Thampi
President - IIC, TSEC



Dr. Madhuri Rao
Vice President - IIC, TSEC

TSEC- Institution's Innovation Council Report: Expert talk on "Process of Innovation Development & Technology Readiness Level (TRL)" & "Commercialisation of Lab Technologies & Tech-Transfer"

Date: 24th February, 2024

Duration: 10:00 am - 2:00pm

Mode: Online

Total Attendees: 40

Speaker: Abhijit Pande (Insights and Strategy Manager, Accenture)

Topic: Expert talk on "Process of Innovation Development & Technology Readiness Level (TRL)" & "Commercialisation of Lab Technologies & Tech-Transfer"

Introduction:

The Institution's Innovation Council at Thadomal Shahani Engineering College [TSEC] organized a webinar on "Process of Innovation Development & Technology Readiness Level (TRL)" & "Commercialisation of Lab Technologies & Tech-Transfer" on 24th February 2024. The webinar aimed to provide insights into innovation processes, commercialization strategies, and funding opportunities for students aspiring to navigate the realm of technology readiness and innovation.

Key Takeaways:

- **Innovation Tools:** The seminar highlighted six key tools for innovation: the Problem Exploration Grid, Idea Generation Techniques, Thinking Backwards, Zero-Based Thinking, Business Tanking, and Innovation Mashups.
- **Commercializing Innovation:** Strategies included selling IP, partnering (e.g., Shark Tank), or patenting for royalties.
- **Funding Opportunities:** Students learned about grants, partnerships, and university resources for patent costs and ventures.

Agenda Highlights:

- **Innovation Tools:** Introduced Problem Exploration Grid for comprehensive problem diagnosis. Also covered idea generation techniques, prioritization matrices, customer discovery frameworks, competitive landscape mapping, and business model canvases.
- **Commercializing Innovation:** Explored models such as selling IP, sharing equity, and licensing patents. Emphasized building a robust business case and securing IP rights for profitable innovation.

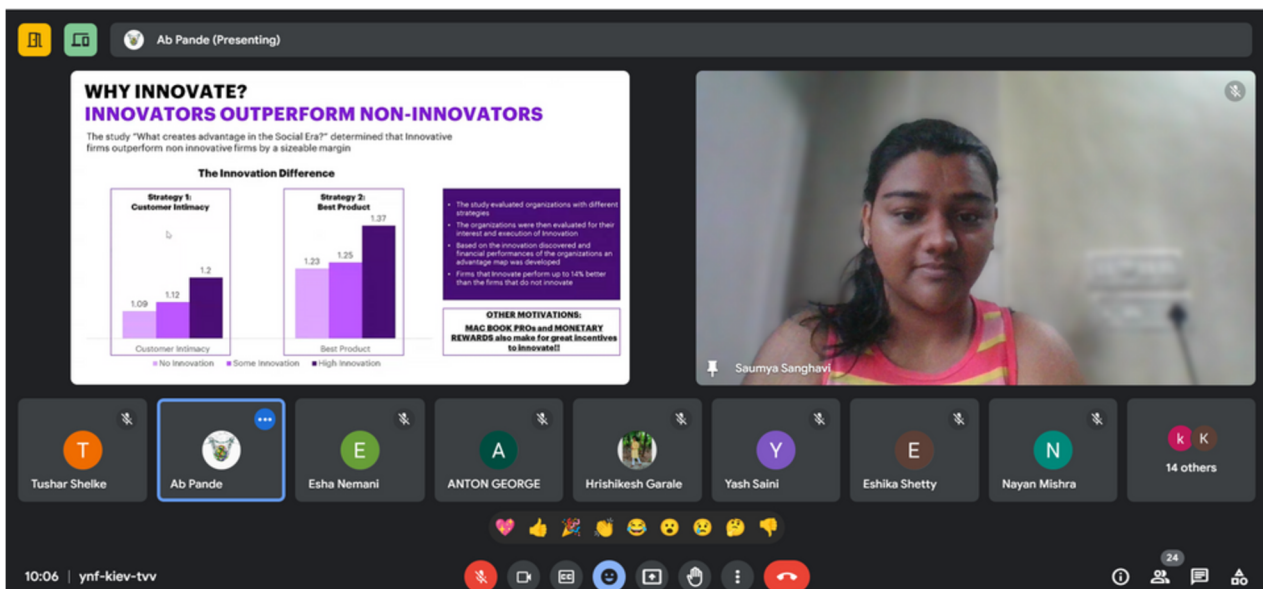
Next Steps:

- **Sharing Resources:** Participants were encouraged to explore available patent filing resources and actively engage in innovation competitions to augment their entrepreneurial endeavors.
- **Technology Incubators:** The webinar concluded by furnishing contacts for technology incubators, fostering opportunities for students to incubate and accelerate their innovative ideas.

Conclusion:

The webinar on Exploring Technology Readiness Levels facilitated a profound discourse on innovation methodologies, commercialization strategies, and avenues for funding. By equipping students with practical tools and resources, the webinar sought to inspire and empower the next generation of innovators at TSEC.

Visual Insights:

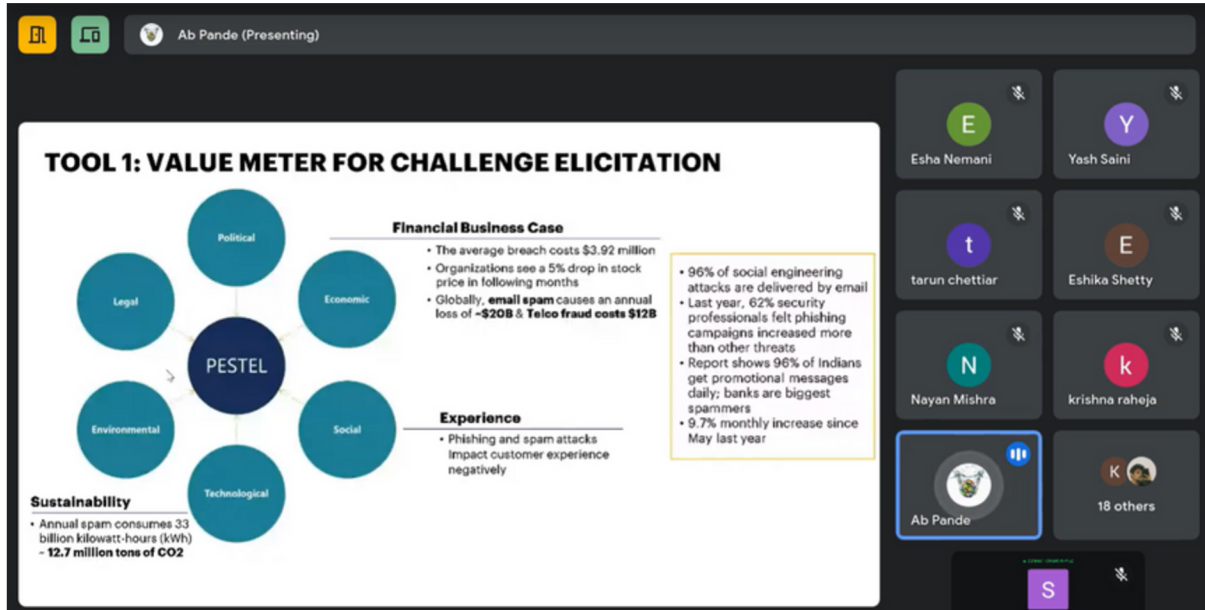


The screenshot displays a Zoom webinar interface. The main content area shows a presentation slide titled "WHY INNOVATE? INNOVATORS OUTPERFORM NON-INNOVATORS". The slide includes a bar chart comparing "Customer Intimacy" and "Best Product" across three innovation levels: No Innovation, Some Innovation, and High Innovation. The data points are as follows:

Metric	No Innovation	Some Innovation	High Innovation
Customer Intimacy	1.09	1.12	1.3
Best Product	1.23	1.25	1.37

The slide also lists "OTHER MOTIVATIONS: MAC BOOK PRIZES and MONETARY REWARDS also make for great incentives to innovate!!". A video feed on the right shows a presenter, Saumya Sanghavi. The bottom of the interface shows a grid of participant avatars, including Tushar Shelke, Ab Pande, Esha Nernani, ANTON GEORGE, Hrishikesh Garale, Yash Saini, Eshika Shetty, Nayan Mishra, and 14 others. The bottom status bar shows the time as 10:06 and the meeting ID as ynf-kiev-tvv.

Dynamic Start: Mr. Abhijit Pande explains why innovators excel, initiating interactive dialogue and kicking off the webinar.



TOOL 1: VALUE METER FOR CHALLENGE ELICITATION

PESTEL

- Political
- Economic
- Social
- Technological
- Environmental
- Legal

Financial Business Case

- The average breach costs \$3.92 million
- Organizations see a 5% drop in stock price in following months
- Globally, **email spam** causes an annual loss of **-\$20B** & **Telco fraud costs \$12B**

Experience

- Phishing and spam attacks impact customer experience negatively

Sustainability

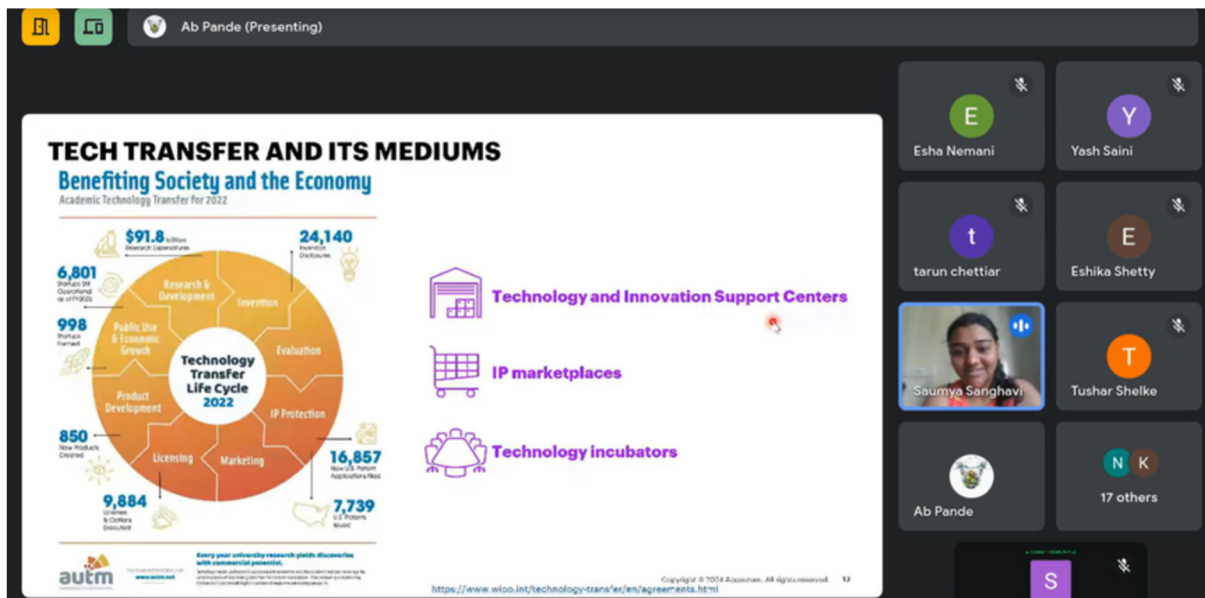
- Annual spam consumes 33 billion kilowatt-hours (kWh)
- 12.7 million tons of CO2**

Key Statistics:

- 96% of social engineering attacks are delivered by email
- Last year, 62% security professionals felt phishing campaigns increased more than other threats
- Report shows 96% of Indians get promotional messages daily; banks are biggest spammers
- 9.7% monthly increase since May last year

Participants: Esha Nemani, Yash Saini, tarun chettiar, Eshika Shetty, Nayan Mishra, krishna raheja, Ab Pande, 18 others.

Workshop in Session



TECH TRANSFER AND ITS MEDIUMS
Benefiting Society and the Economy
Academic Technology Transfer for 2022

Technology Transfer Life Cycle 2022

- 6,801 Research & Development Initiatives
- 998 Patents Granted
- 850 New Products Created
- 9,884 Licenses & Contracts Executed
- 16,857 Start-ups/Enterprises Helped
- 7,739 U.S. Patents Made
- 24,140 Patents/Inventions

Mediums:

- Technology and Innovation Support Centers
- IP marketplaces
- Technology incubators

Participants: Esha Nemani, Yash Saini, tarun chettiar, Eshika Shetty, Saumya Sanghavi, Tushar Shelke, Ab Pande, 17 others.

Closing Discussions



Dr. G. T. Thampi
President - IIC, TSEC




Dr. Madhuri Rao
Vice President - IIC, TSEC

TSEC- Institution's Innovation Council Report: Webinar on Intellectual Property Rights and IP Management for start-ups.

Date: 5 April, 2024

Duration: 10:00 am - 1:00 pm

Mode: Online

Total Attendees: 60

Speaker: K. Narayanmurthy (EXAMINER OF PATENTS AND
DESIGNS, NIPAM OFFICER)

Topic: Intellectual Property Rights and IP Management for start-ups.

Introduction:

The Institutions Innovation Council of TSEC organized a webinar titled "Intellectual Property Rights and IP Management for Start-ups" aimed at educating university students about the significance of Intellectual Property (IP) in the startup ecosystem. The webinar featured K. Narayanmurthy, an Examiner of Patents and Designs at the Indian Patent Office, Government of India, who provided valuable insights into the process of patent examination and IP management.

Key Takeaways:

- Understanding IPR: Attendees learned about various forms of Intellectual Property (IP) and its role in fostering innovation and economic growth.
- Patent Examination: Students gained insights into the intricate process of patent examination, understanding the criteria for patentability in India.
- IP Management for Start-ups: Mr. Narayanmurthy emphasized effective IP management strategies for startups, including protection, commercialization, and their significance in attracting investors and establishing market competitiveness.

Agenda Highlights:

- Overview of Intellectual Property Rights and their significance.
- Discussion on the patent examination process and criteria for patentability.
- Insights into IP management strategies for startups, including protection and commercialization.

- Case studies and real-world examples illustrating the importance of IP in business growth and sustainability.
- Q&A session for students to engage with the speaker and clarify doubts on IP-related topics.

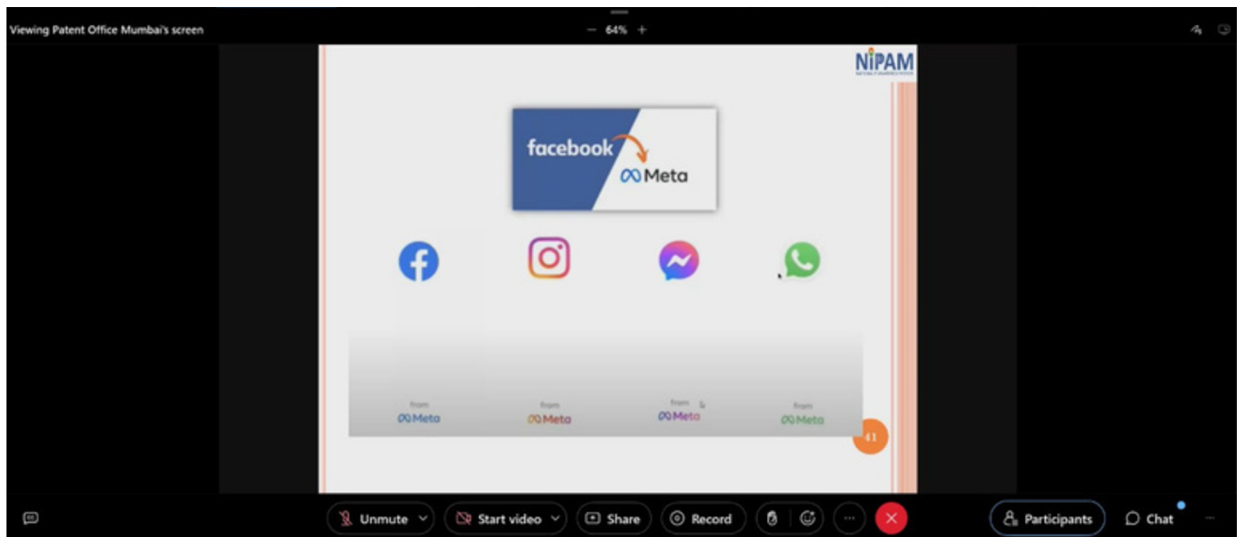
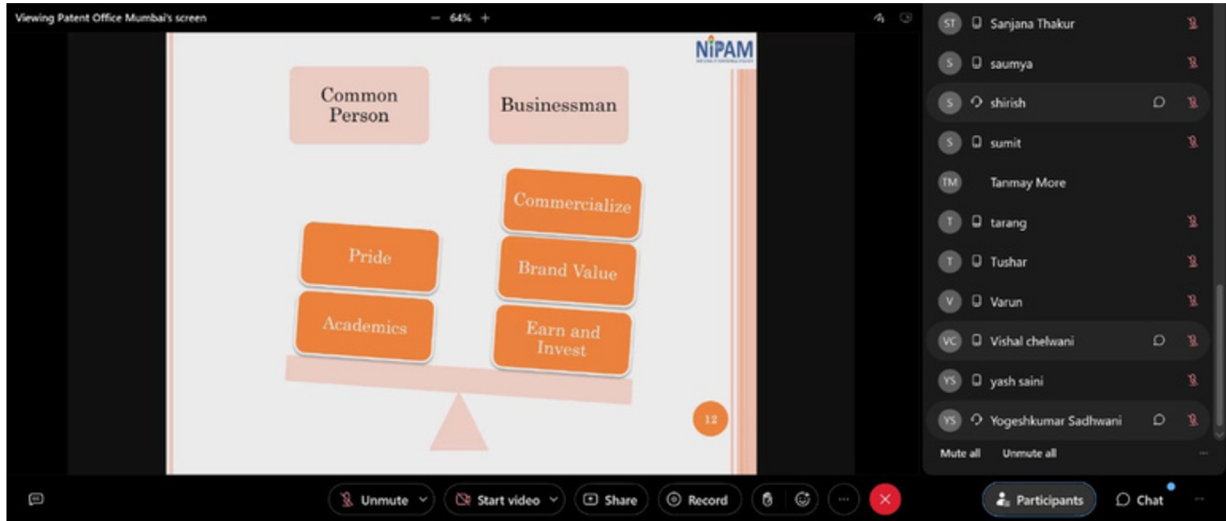
Next Steps:

- Further Education: Encourage students to seek additional resources such as workshops, seminars, and online courses to enhance their understanding of Intellectual Property Rights (IPR) and its implications for startups.
- Professional Guidance: Advise aspiring entrepreneurs to seek professional assistance and engage with IP experts to develop comprehensive IP strategies tailored to their ventures.
- Continuous Learning: Emphasize the importance of ongoing education and staying updated with the evolving landscape of IP management to effectively protect and leverage intellectual assets in the startup ecosystem.

Conclusion:

The webinar on Intellectual Property Rights and IP Management for Start-ups provided students with valuable insights into the complexities of IP protection and management in the startup ecosystem. K. Narayanmurthy's expertise and experience as an Examiner of Patents and Designs enriched the discussion, highlighting the critical role of IPR in fostering innovation and entrepreneurship. The event exemplified the Institutions Innovation Council's commitment to empowering students with knowledge and resources to navigate the challenges of the modern business landscape.

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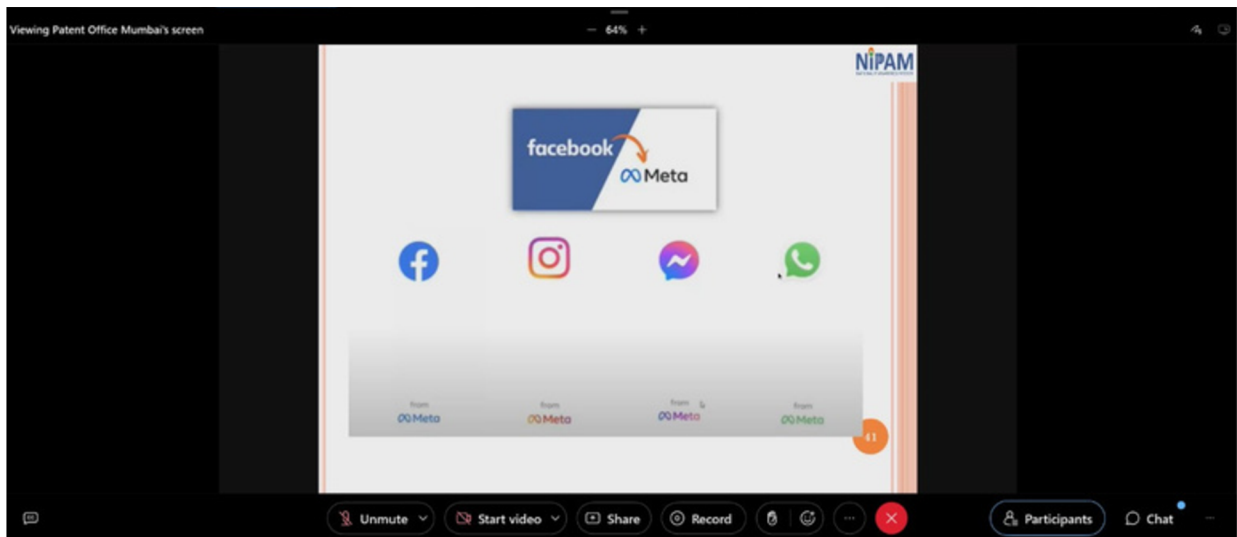
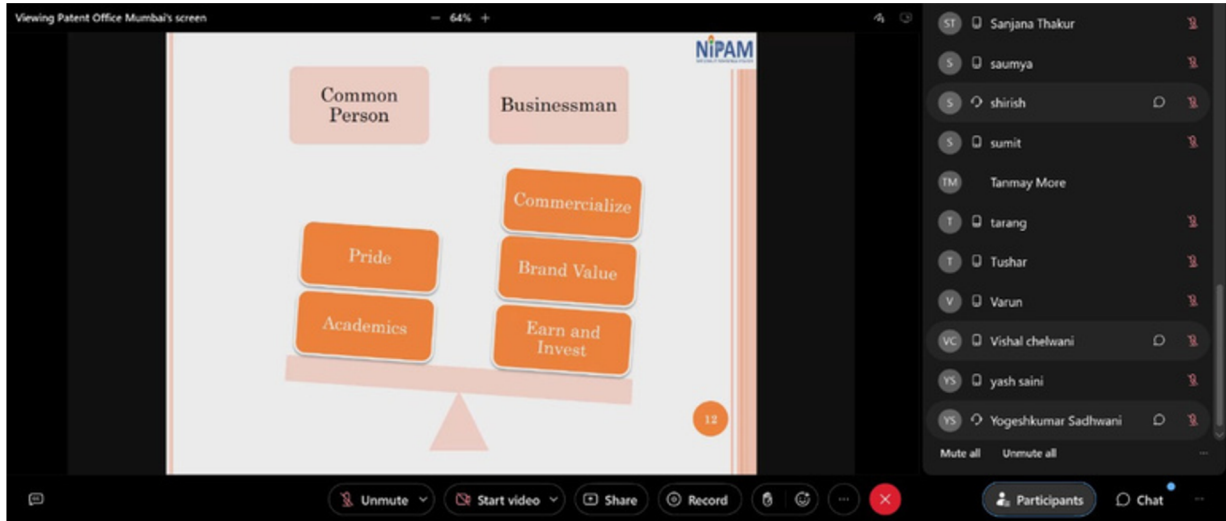
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