Department of Computer Science & Engineering

Heritage Institute of Technology

Kolkata

Seminar Report

Date: 12th April, 2023

Time: 3:30 PM

Venue: SVA

Title: AI for Technical Interviewing

Speaker: Indrajit Bhattacharya, Principal Scientist, TCS Research

Summary of talk: Technical interviewing requires significant domain expertise and investment of time. Instead of automating interviews, we propose an automated assistant for interviewers. This requires the ability to automatically create questions banks for technical subjects, containing diverse long-form questions with difficulty labels as well as reference answers. Additionally, the assistant needs to contextually recommend questions during the interview, assess candidate answers and make hiring recommendations. We have designed and implemented an architecture for the Interview Assistant using novel techniques for question generation, reference answer extraction, question difficulty labelling and question recommendation. The iBot, as we call the interview assistant, is now being piloted for TCS campus interviews.

Number of attendees: 54

19/4/2023

Dr. Subhashis Majumder
Professor and HOD
Computer Science and Engineering
Dean UG Programme
Heritage Institute of Technology
Kolkata, India

Short Term Training Programme
on
Machine Learning for IoT Edge Computing

Organized by: Department of Computer Applications, Heritage institute of Technology
In Association with IIC, HITK
Supported by IQAC-HITK

Date: March 20 - 24, 2023

Venue: MCA 103, MCA Building, Heritage institute of Technology

: - REPORT -:

ABOUT THE SHORT TERM TRAINING PROGRAMME

End devices, such as smartphones and IoT sensors, are generating data that need to be analyzed in real time using machine learning or used to train machine learning models. Thus, machine learning is a key component for real-time data analytics in upcoming computing environments like the IoT, edge computing and mobile ubiquitous systems. However, machine learning inference and training require substantial computation resources to run quickly. The objective of this **Short Term Training Programme (STTP)** was to disseminate knowledge about the current state of the art at the intersection of machine learning and IoT edge computing. The aim was to discuss various approaches for quickly executing machine learning inference across a combination of end devices, edge servers, and the cloud, and describe the methods for training machine learning models across multiple edge devices. It also discussed open challenges in terms of systems performance, network technologies and management, benchmarks, and privacy. The goal of the programme was to bring together experts, researchers and practitioners from relevant communities, including machine learning, IoT, edge, and ubiquitous/ mobile computing.

THE HIGHLIGHTS OF THE STTP

Day1: Overview of Machine Learning, Introduction to Artificial Neural Networks, Hands-on (Regression, Decision Tree, ANN using Python)
Day2: Classification using ANN, Basics of Deep Learning, Hands on (DL techniques using Python)
Day3: Machine Learning for Sensor Data Analysis, Hands on (Python implementation of ML for Sensor data analysis)
Day4: Biometric Pattern Recognition, Spacio Temporal Networks for Video Analysis using Machine Learning, Machine Learning for Edge-Cloud Computing Systems, Prospect Theory-inspired Automated P2P Energy Trading with Q-learning-based Dynamic Pricing
Day5: Collaborative Learning for Industrial IoT, Societal Computing with IoT.

Dr. Souvik Basu
Head
Department of Computer Applications
Heritage Institute of Technology, Kolkata

THE ORGANIZING COMMITTEE

Organizing Chair

Professor (Dr.) Basab Chaudhuri, Principal, Heritage Institute of Technology, Kolkata

Organizing Secretary

Dr. Souvik Basu, Head, Department of Computer Applications, Heritage Institute of Technology, Kolkata

Organizing Committee

Prof. Debabrata Kar, Dept. of Computer Applications, Heritage Institute of Technology, Kolkata
Prof. Anirban Kundu, Dept. of Computer Applications, Heritage Institute of Technology, Kolkata
Prof. Sandipan Ganguly, Dept. of Computer Applications, Heritage Institute of Technology, Kolkata
Prof. Palash Ghosh, Dept. of Computer Applications, Heritage Institute of Technology, Kolkata
Prof. Sumon Ghosh, Dept. of Computer Applications, Heritage Institute of Technology, Kolkata
Mr. Indranil Dasgupta, Dept. of Computer Applications, Heritage Institute of Technology, Kolkata
Ms. Arpita Roy, Dept. of Computer Applications, Heritage Institute of Technology, Kolkata

SPEAKERS

Prof. (Dr.) Prasad Calyam
Professor and CERI Center Director,Department of Electrical Engineering and Computer Science, University of Missouri, USA

Title: Machine Learning for Edge-Cloud Computing Systems

Dr. Simone Silvestri
Associate Professor and Director of Graduate Studies, Department of Computer Science, University of Kentucky, USA

Title: Prospect Theory-inspired Automated P2P Energy Trading with Q-learning-based Dynamic Pricing

Prof. (Dr.) Amlan Chakraborty
Professor and Director
A. K. Choudhury School of Information Technology
University of Calcutta

Title: Spacio Temporal Networks for Video Analysis

Dr. Bivas Mitra

Associate Professor, Department of Computer Science & Engineering,
IIT Kharagpur, India

Title: Machine Learning for Societal Applications

Dr. Souvik Basu
Head
Department of Computer Applications
Heritage Institute of Technology, Kolkata

Dr. Chandreyee Chowdhury

Associate Professor, Department of Computer Science & Engineering, Jadavpur University, Kolkata, India

Title: Machine Learning for Sensor Data Analysis

Dr. Ishita De Ghosh

Associate Professor, Department of Computer Science, Barrackpore Rastraguru Surendranath College, Kolkata, India

Title: Biometric Pattern Recognition using Machine Learning

Dr. Jayasree Sengupta

Post Doctoral Researcher,
CISPA Helmholtz Center for Information Security, Germany

Title: Collaborative Learning for Industrial IoT

OUTCOME OF THE STTP

The participants of the STTP learned - (i) machine learning basics using Python, (ii) scenarios where machine learning can be useful for IoT edge computing, (iii) common techniques for speeding up machine learning inference and performing distributed training on edge devices, and (iv) recent trends and opportunities in this domain. The STTP empowered faculty members, researchers and students with necessary knowledge on machine learning, IoT and edge computing, so that they can create an enabling ecosystem for the research, development and skilling of talent for facilitation of the government and the industry.

The outcomes of the STTP helped gather new ideas and concepts on:

- Python tools for machine learning
- machine learning methods for IoT based sensor data analysis
- machine learning tools for edge-cloud computing systems
- collaborative learning for industrial IoT
- using machine learning for societal applications

The sessions provided a comprehensive understanding on the contemporary machine learning approaches and their utilization in various use cases. The program would help faculty members, researchers and students pursue application development and research in this direction.

PARTICIPANTS

A total of 96 applications were received, of which 60 were selected on first come first serve basis. Participants were mainly faculty members and students from different departments of the Institute and few others from other Universities. The list of participants is given below:

Dr. Souvik Basu
Head
Department of Computer Applications
Heritage Institute of Technology, Kolkata

IEEE MTT-S HITK Student Branch Chapter

Workshop: Radio Frequency Circuit Design
Date: 18th March, 2023
Venue: ICT 603, Heritage Institute of Technology
Organized by: IEEE MTT-S HITK SBC, ECE Department & IIC-HITK

The IEEE MTT-S HITK Student Branch Chapter, Department of Electronics and Communication Engineering (ECE) & Institution's Innovation Council of HITK (IIC-HITK) organized a hands-on workshop on Radio Frequency Circuit Design on 18th March 2023. The workshop aimed to provide students with an opportunity to learn about the practical aspects of RF circuit design and gain hands-on experience in designing and testing RF circuits. The workshop was conducted by Dr. Arijit Majumder, Scientist-E and Dr. Paramita Biswas , Scientist from SAMEER, Kolkata, who have extensive experience in the field of RF circuit design.

The workshop was designed to provide hands-on experience in designing and simulating radio frequency circuits using industry-standard software tools. The workshop was divided into two parts: theory and practical sessions. The workshop started with an introduction to the basics of RF circuit design. The Scientists explained the concepts of impedance matching, transmission lines, and the importance of signal integrity in RF circuits. The students were then given a brief overview of the different types of RF circuits, such as amplifiers, filters, mixers, and oscillators.

The workshop then proceeded to the hands-on session, where the students were divided into groups and given the task of designing and simulating an RF amplifier circuit. The Scientists provided guidance to the students and helped them in designing the circuit using software tools, ADS (Advanced Design System). The students were also taught how to perform simulations and analyze the performance of the circuit using parameters such as gain, noise figure, and stability.

Email: ieee-mtts-hitk@heritageit.edu
Website: http://www.heritageit.edu/IEEEMTTS/index.html
Facebook Page: https://www.facebook.com/ieee.mtts.sbc.hitk/
LinkedIn Page: https://www.linkedin.com/company/ieee-mtts-hitk-sbc/

Heritage Institute of Technology
(An Autonomous Institute under MAKAUT, WB)
(Kalyan Bharti Trust Initiative)
994 Madhurdaha, Chowbaga Road, Anandapur, P.O. East Kolkata Township, Kolkata - 700 107
Phone : (033) 6627 0609 / 0614 / 0622 / 0623 ● Fax : +91 33 2443 0455 ● E-mail : ece@heritageit.edu
www.heritageit.edu

IEEE MTT-S HITK Student Branch Chapter

After designing the circuit, the students were then taught how to fabricate the circuit on a printed circuit board (PCB). They were shown how to layout the circuit, and design the circuit in the PCB. The students were then given the opportunity to test the circuit using ADS.

The workshop was attended by 45 students from various departments of the Institute. The students were enthusiastic and actively participated in the workshop. They found the workshop to be highly informative and useful in gaining practical knowledge in the field of RF circuit design.

In conclusion, the hands-on workshop on Radio Frequency Circuit Design organized by the IEEE MTT-S HITK Student Branch, Department of ECE & IIC-HITK was a great success. The workshop provided the students with an opportunity to learn about the practical aspects of RF circuit design and gain hands-on experience in designing and testing RF circuits. The organizers are grateful to the Scientists from SAMEER, Kolkata, for sharing their expertise and making the workshop a success and it is hoped that similar events will be organized in the future to provide students with more opportunities to learn and grow in their respective fields.

SOME GLIMPSES OF THE WORKSHOP:

Email: ieee-mtts-hitk@heritageit.edu
Website: http://www.heritageit.edu/IEEEMTTS/index.html
Facebook Page: https://www.facebook.com/ieee.mtts.sbc.hitk/
LinkedIn Page: https://www.linkedin.com/company/ieee-mtts-hitk-sbc/

Department of Computer Science & Engineering

Heritage Institute of Technology

Kolkata

Seminar Report

Date: 2nd March, 2023

Time: 3:30 PM

Venue: ICT 312

Title: When Elephant Walks at Random

Speaker: Krishanu Maulik, Associate Professor, Stat-Math Unit, Indian Statistical Institute

Summary of talk: Random walk is a well-known and useful model to understand stochastic movement and has been studied for over a century. However, one of the limitations of the model is lack of any memory, which leads to a comparison of the walker with a drunkard. The lack of memory gives a diffusive growth pattern which is not always observed in nature. Elephant Random Walk provides an alternative, where the walker remembers much or all of the past – like an elephant. We shall see this causes a phase transition and anomalous behaviour.

Number of attendees: 29

7/3/2023

Dr. Subhashis Majumder
Professor and HOD
Computer Science and Engineering
Dean UG Programme
Heritage Institute of Technology
Kolkata, India

REPORT OF FIVE DAYs FACULTY DEVELOPMENT PROGRAM on

Emerging Technologies of Renewable Energy & its Challenges" (ETREC-2023)

Date: 27th February 2023 to 3rd March 2023
Venue: ICT 509
Organized By: ECE Department, Heritage Institute of Technology, Kolkata.
Resource Persons:

1. Dr. Bijoy Kumar Upadhyaya, Professor, Dean Academics, Tripura Institute of Technology, Tripura
2. Dr. Rupnarayan Ray Associate Professor, National Institute of Technology Agartala, Tripura
3. Dr. Tirtharaj Sen, Principal, Women Polytechnic, Tripura, Agartala
4. Dr. Swapna Roy, Associate Professor, Netaji Subhash Engineering College, Kolkata
5. Dr. Jayati Datta Professor, HoD Chemistry Dept., Heritage Institute of Technology, Kolkata
6. Dr. Avijit Ghosh Assistant Professor, Chemical Engineering Dept., Heritage Institute of Technology,
7. Dr. Sumanta Banerjee Assistant Professor, Mechanical Engineering Dept., HITK
8. Prof. Sukanta Saha Assistant Professor, Mechanical Engineering Dept., HITK
9. Dr. Tapas Chakrabarti Assistant Professor, Electronics & Communication Engineering HITK.

Registered numbers of Faculties: 94 (Ninety Four)
Convener : Dr. Tapas Chakrabarti
Joint-Convener FDP: Dr. Shib Sankar Bhowmick

The five days faculty development program (27th February23 to 3rd March 2023) was organized in Hybrid mode (Online+Physical), by the **Department of Electronics & Communication Engineering, Heritage Institute of Technology Kolkata** with the objective to create awareness the significant achievements, prospects, projections on commercially available renewable energies and as well as challenges of advancement of technologies in renewable sector under the title of **"Emerging Technologies of Renewable Energy & its Challenges" (ETREC-2023).** During these five days, two sessions were organized every day. 94 numbers of multi discipline Faculties from different states of India were registered in this one week long Faculty Development Program, out of them 63 numbers of faculty attended from Heritage Institute of Technology.

The program was inaugurated on 27th February at 10 A.M, by Prof.(Dr.) Basab Chaudhuri, Principal Heritage Institute of Technology, Kolkata with his short speech well explained the necessity of this FDP program. This FDP program is aimed to promote knowledge enhancement and research skills on new technologies of renewable energies to the participating Faculty/ Research Scholars.

Prof. Prabir Banerjee

Head, ECE Department

HOD, ECE Department
Heritage Institute of Technology
Kolkata

Dr. Tapas Chakrabarti
Convener

Dr. Shib Sankar Bhowmick
Joint-Convener

Department of Computer Science & Engineering

Heritage Institute of Technology

Kolkata

Seminar Report

Date: 11th January, 2023

Time: 3:30 PM

Venue: ICT 311

Title: Introduction to blockchain technology

Speaker: Dr Aniruddha Dasgupta

Summary of talk: Blockchain is an enabling technology for individuals and companies to collaborate with trust and transparency. One of the best know applications of blockchains are the cryptographic currencies such as Bitcoin and others, but many other applications are possible. The talk would give insights and practical experience on Blockchain technology and applications in practice.

Number of attendees: 11

14/1/2023

Dr. Subhashis Majumder
Professor and HOD
Computer Science and Engineering
Dean UG Programme
Heritage Institute of Technology
Kolkata, India

IEEE MTT-S HITK Student Branch Chapter

Inaugural Ceremony & Technical Session

IEEE MMT-S Student Branch Chapter and ECE Department of Heritage Institute of Technology jointly organized the inaugural ceremony of the IEEE MTT-S SBC on **09/11/2022** in the campus in offline mode from 02:00 pm. The chief guest was **Dr. Arijit Majumder , Scientist-E** of Society for Applied Microwave Electronics Engineering & Research (SAMEER) Kolkata, West Bengal, India.

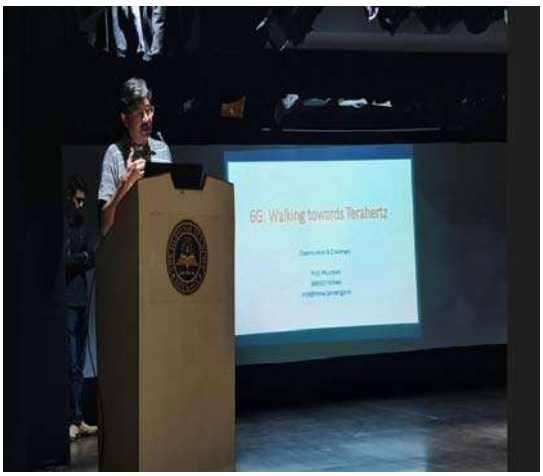
In the Inaugural event executive committee members of the chapter were introduced to the audience by the chapter chair. Logo and website of the chapter were unveiled by the executive committee members. A brief presentation illustrating the benefits of joining the chapter was explained to the audience.

Inaugural session was followed by a technical session titled **"6G: Walking towards Terahertz"** by Dr. Arijit Majumder of SAMMER Kolkata, India. Through this technical session the audience came to know about various facets of the technology, the current R&D going around the world. The session was very interactive wherein scopes for research in 6G have also been discussed. The Speaker also briefly elaborated method of pursing such research.

The event successfully ended with vote of thanks by faculty advisors Dr. Soumyo Chatterjee and Dr. Sayantani Datta.

15.11.22

Lighting of the lamp by Chief Guest Dr. Arijit Majumder, SAMEER, Kolkata, India.

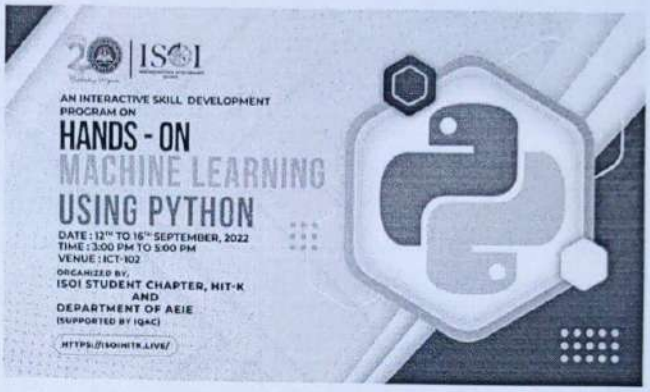


Technical Session by Dr. Arijit Majumder, SAMEER, Kolkata, India.

(An Autonomous Institute under MAKAUT, WB)
(Kalyan Bharti Trust Initiative)
994 Madhurdaha, Chowbaga Road, Anandapur, P.O. East Kolkata Township, Kolkata - 700 107
Phone : (033) 6627 0609 / 0614 / 0622 / 0623 ● Fax : +91 33 2443 0455 ● E-mail : ece@heritageit.edu
www.heritageit.edu

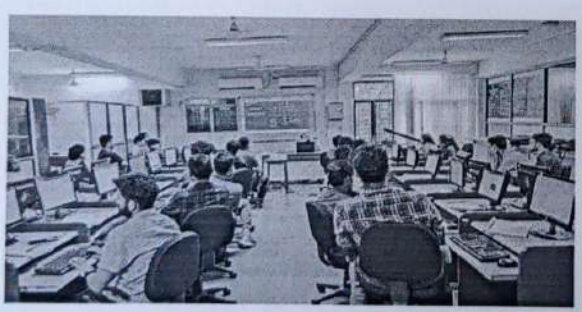
Report on
Five Day (12th-16th September, 2022)
Skill Development Program on *Hands-on Machine Learning with Python*
Organized by
ISOI student Chapter and Department of Applied Electronics and Instrumentation Engineering,
Heritage institute of Technology, Kolkata-700107

In order to get acquainted with the concepts of process data analytics and intelligent decision making the ISOI student Chapter and the Department of AEIE, with support from IQAC, Heritage institute of Technology organized a five day on workshop on "***Hands-on Machine Learning with Python***" from on 12th September to 16th September, 2022 at the institute. Total *33* student members were registered for this skill development program from the said department across all four years of B.Tech curricula.



The skill development program was conducted by the experts from Ardent., Kolkata. *Mr. Druba Ray and Mr. Mahendra Dutta* delivered their knowledge on the following topics:

S No.	Day	Date	Topic	Class type
1	1	12/09/2022	Basics of Python	Theory and Practical
2	2	13/09/2022	Data structures in Python	Theory and Practical
3	3	14/09/2022	Introduction to Numpy module	Theory and Practical
4	4	15/09/2022	Data processing using Numpy	Theory and Practical
5	5	16/09/2022	Basics of Machine Learning using Sk-Learn	Theory and Practical



Prof. (Dr.) Madhurima Chattopadhyay, Professor and HoD, Dept. of AEIE, inaugurated the program with her welcome address. The experts enlightened the participants by their technical knowledge in the field of Python for the five days with hands-on programming. The well conversant experts from Ardent, Kolkata, tried their best to give the flavor of Python and its uses in academics as well as in industries.

Professor & HOD
Applied Electronics & Instrumentation
Heritage Institute of Technology, Kolkata

Prof. (Dr.) Madhurima Chattopadhyay,
Professor and HoD, Dept. of AEIE,
Heritage Inst. of Technology, Kolkata-107

FDP on

"Blockchain and its practical implementation"

Organized by

Department of Information Technology

Supported by

IQAC

Heritage Institute of Technology

Chowbaga Road, Anandapur, PO:East Kolkata Township, Kolkata- 700107

Duration: 22nd August to 26 August, 2022

Report

About the workshop

Blockchain is seen as a technology with the potential to transform almost all industries and economies. World Economic Forum (WEF) anticipates that 10% of the global GDP will be stored on Blockchain by 2025. The purpose of the workshop is to prepare faculty, staff members and researchers with state-of-the-art knowledge on Blockchain technology. The program includes extensive hands-on sessions emphasizing the demonstration and application of techniques and skills. The sessions are delivered by experts from academia and industry. The course is open to faculty, staff members and researchers of colleges, Universities, and research institutes.

The key objectives of this program are

- To propagate the knowledge of this emerging technology among academicians, researchers and students
- To understand the current status of Blockchain research and development works across the world

The Highlights of the Program

Day1: Blockchain Technology, Bitcoin, Hands-on (Blockchain)

Day2: Bitcoin Mining, Blockchain Security, Hands-on (Bitcoin)

Day3: Ethereum Basics, Basics of Solidity, Hands-on (Ethereum)

Day4: Blockchain Interoperability, Decentralized App (DAPP), Hands-on (Decentralized App)

Day5: Blockchain Enterprise Use Cases, Hyperledger Fabric, Hands-on (Hyperledger Fabric)

The Organizing Committee

Conveners
Prof. Siuli Roy, Head of the Department, Dept. of IT

Prof. Debabrata Datta, Professor, Department of IT & Joint Director, Research & Development, Heritage Institute of Technology, Kolkata

Coordinator
Prof. Sudipta Bhadra, Dept. of IT

Members
Prof. Deep Malya Mukhopadhyay, Dept. of IT

Prof, Satarupa Biswas, Dept. of IT

Prof. Sandipan Dutta, Dept. of IT

Prof. Rituparna Sinha, Dept. of IT

Prof. Uttam Kumar Dash, Dept. of IT

Prof. Subhajit Rakshit, Dept. of IT

Speakers

Prof. (Dr.) Debabrata Datta,Professor,
Department of IT & Joint Director, Research & Development, Heritage Institute of Technology, Kolkata

Prof. Debabrata Datta is working as a Professor of the department of Information Technology of HITK. He is also acting as the Joint Director of R & D of HITK. Formerly, he was Senior Scientist-H and Head of Radiological Physics & Advisory Division at Bhabha Atomic Research Centre. He is having a research experience of 34 years in the department of Atomic Energy. He was Former Professor in the Physical & Mathematical Sciences department at Homi Bhabha National Institute (Deemed University) under the Department of Atomic Energy (DAE). He had done his PhD from Mumbai University and MPhil from Calcutta University. He had executed 15 projects as Principal collaborator at Bhabha Atomic Research Centre. He is a life member of Indian Association of Radiation Protection (IARP), Indian Science Congress Association (ISCA)

and other societies; He is editorial board member of IJEIC, IEEE Transaction of Fuzzy System and other reputed journals

Prof. Sandip Chakraborty
Associate Professor, Department of Computer, Science and Engineering, Indian Institute of Technology (IIT) Kharagpur

Prof. Sandip Chakraborty is working as an Associate Professor in the Department of Computer Science and Engineering at the Indian Institute of Technology (IIT) Kharagpur. He obtained his Bachelor of Engineering (BE) degree from Jadavpur University, Kolkata in 2009 and Master of Technology (M Tech) and Doctor of Philosophy (Ph.D.), both from IIT Guwahati, in 2011 and 2014, respectively. Presently he is coordinating the Ubiquitous and Networked Systems Lab (UbiNET) at IIT Kharagpur, focusing on various aspects of computer systems along with the design and development of ubiquitous and pervasive sensing systems. He is an active member of the COMSNETS Association, India, IEEE COMSOC, ACM SIGCOMM, and ACMSIGMOBILE. He is one of the founding members of ACM IMOBILE, the ACM SIGMOBILE chapter in India. Currently, He is also working as an Area Editor of Elsevier Ad Hoc Networks and Elsevier Pervasive and Mobile Computing journals.

Mr. Anand Raje
Co-Founder, BASIS Technologies Private Limited. Co-Founder, CTO, India Internet Foundation

Mr. Anand Raje is a technology entrepreneur and researcher currently working in the domain of Internet resiliency and Blockchain. He is a passionate about engaging with academia and building communities for research activities, mentoring and working with the young generation to harness their potential in making the Internet a better space. He is a community contributor to various Internet Governance entities and activities. He led the Internet Society Kolkata Chapter as Chair and engaged in various capacity building and awareness programs. He has received fellowships from ICANN, ISOC, APRICOT [16 & 17], APSIG [18] and IETF [19]. He was involved in implementing Indian IETF Capacity Building Program (IICB), He has executed several society-oriented projects such as AIORI (Advanced Internet Operations Research in India), Kolkata IX and e-governance projects at state and central level.

Outcome of the FDP

Participants of the above mentioned FDP learnt the fundamentals and then covered all the technical and functional aspects needed to build any Blockchain solution using the best tools and techniques. The following topics were discussed

a. *Building Blocks of Blockchain Technology*
b. *Building Blocks of Bitcoin (Cryptocurrency)*
c. *Explore the Bitcoin Blockchain and Hash creation process*
d. *Stack Language for Bitcoin Transactions*
e. *Building Blocks of Ethereum*
f. *Solidity Programming Language for Ethereum Smart Contract*
g. *Development of Dapp based on Ethereum*
h. *Features of permissioned Blockchain, Hyperledger Fabric and its practical use*
i. *Blockchain interoperability and Enterprise use-cases*

The sessions provided a comprehensive understanding on the contemporary cryptographic approaches and their utilization in various industry-specific use cases of Blockchain. The program is expected to help faculty members pursue application development and research in this direction.

Participants

Total 26 numbers of participants from department of Information Technology, Computer Science and Engineering, Applied Electronics and Instrumentation and Computer Applications joined the program, took part in the evaluation process and successfully completed the program.

Glimpses of the Program

Inaugural Program

Summary Sheet

Academic Year	2022-2023
Program driven by	IIC-HITK
Program Supported by	IQAC-HITK
Quarter	Quarter-1
Activity Name	WORKSHOP ON ENTREPRENEURSHIP AND INNOVATION
Program Date	10 November 2022
Number of Participants	Thirty (30)
Number of Expert Participants, If Any	Nil
Expenditure, If Any	Rs.3000/- (approx.)
Mode of Program Execution	Offline
Objectives	• Inspiration on Entrepreneurial Opportunity • Motivation on Innovation Culture
Benefits in terms of learning/skill/knowledge development	• Learning about various government schemes promoting Entrepreneurship in India. • The role of MSME clusters on innovation in India. • Learning about various government schemes promoting innovation & startup in India.
Program Coordinator (s)	• Prof. Avijit Ghosh, Dept. of Chemical Engineering, HITK • Prof. Sukanta Saha, Dept. of Mechanical Engineering, HITK

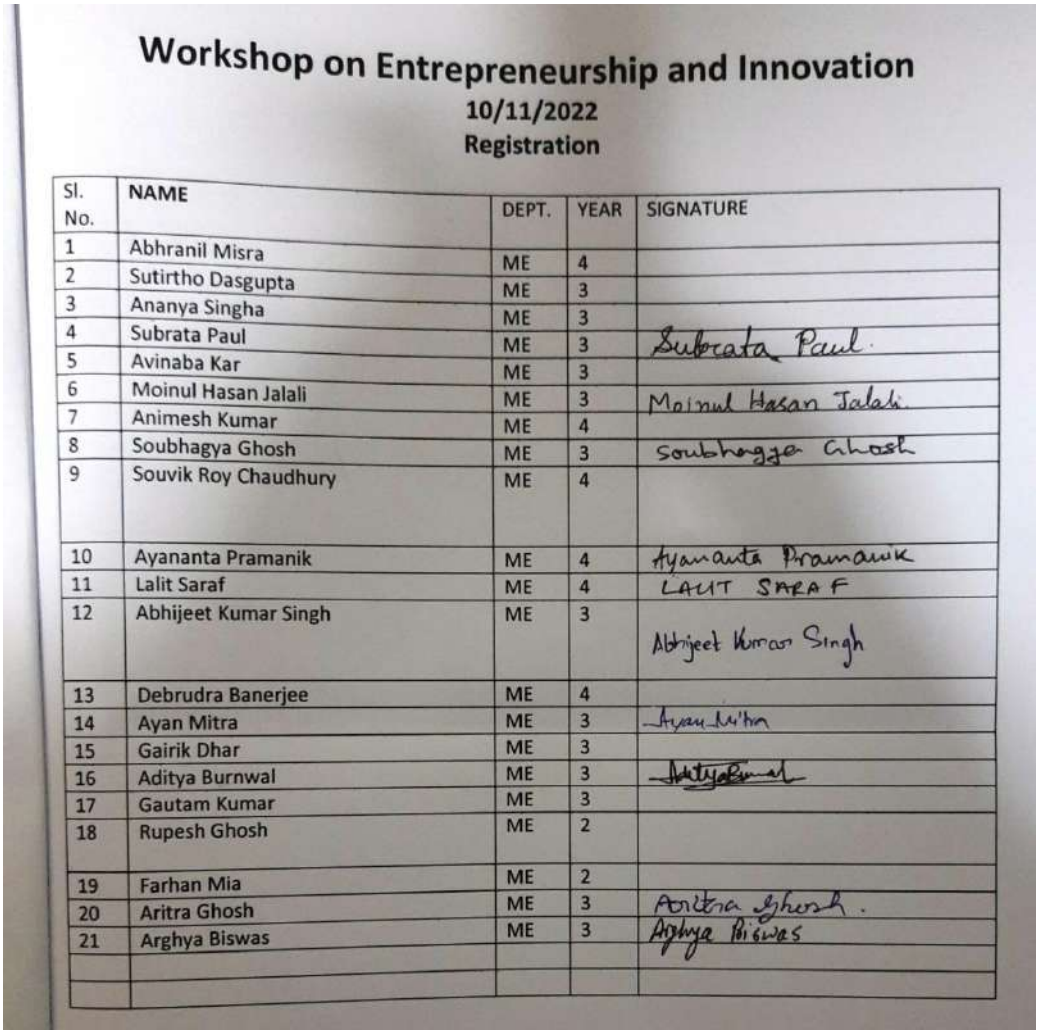
Attachment	
Video (to be uploaded in the YouTube if any)	
Photo	Attached
Summary Document/ Overall Report of the Activity	As summarized below

Overall Report of the Activity	
Date: 10 November 2022	Time: 3-4pm
Speaker: Shri D.M. Butala	Topic: Innovation and Startup Ecosystem
Speaker Profile: President IICHE & Former ED, Gujarat State Fertilizers & Chemicals Limited. Chemical Engineer with 48 years of experience in Project Management, Process Design, Process Safety, Energy Management, Plant Operation & Maintenance. Was Council Member, IIChE 3 times & Vice President, IIChE 2 times. Very active with Baroda RC, IIChE. Also, Member, AIChE, Has 50 papers to his credit and published Six-Part Series on Process Safety in IIChE Newsletter in 2015-16. Advocates strong Industry-Academia interaction. Would endeavour to make IIChE a strong platform for freshers, experienced engineers and promote industry-oriented R&D activities.	
Key Learning and Take-Away: • Importance of Innovation Ecosystem. • The role of MSMEs on innovation and Startup in India. • Various government schemes promoting innovation & startup.	

Overall Report of the Activity	
Date: 10 November 2022	Time: 4-5pm
Speaker: Shri Praveen Saxena	Topic: Motivation for future Entrepreneurs
Speaker Profile: Director, BUMISTHA INFRA SERVICES	
Key Learning and Take-Away: • Motivational ingredients for future Entrepreneurs. • Habits of future Entrepreneurs. • Various government schemes promoting Entrepreneurship in India.	

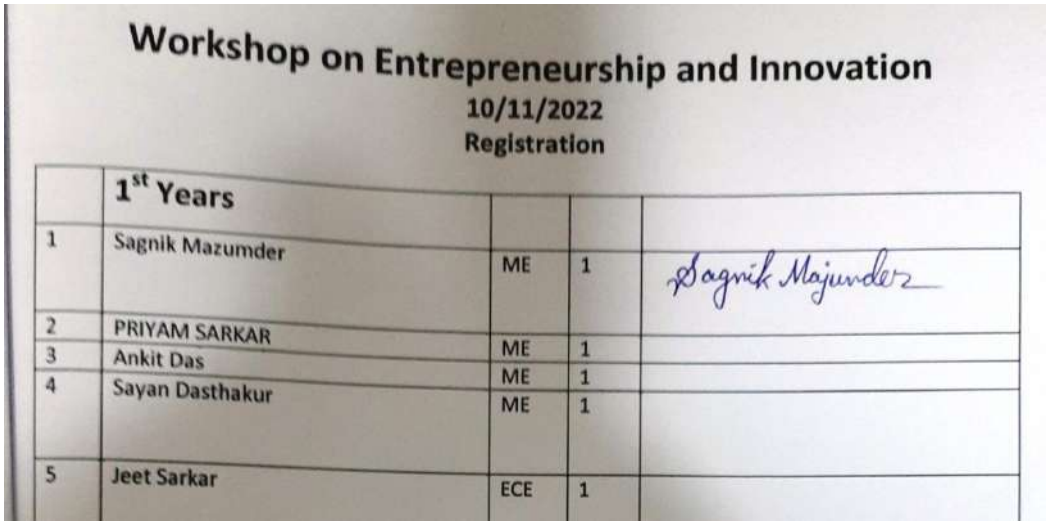
Pictures of the Event:

Record of Participants:



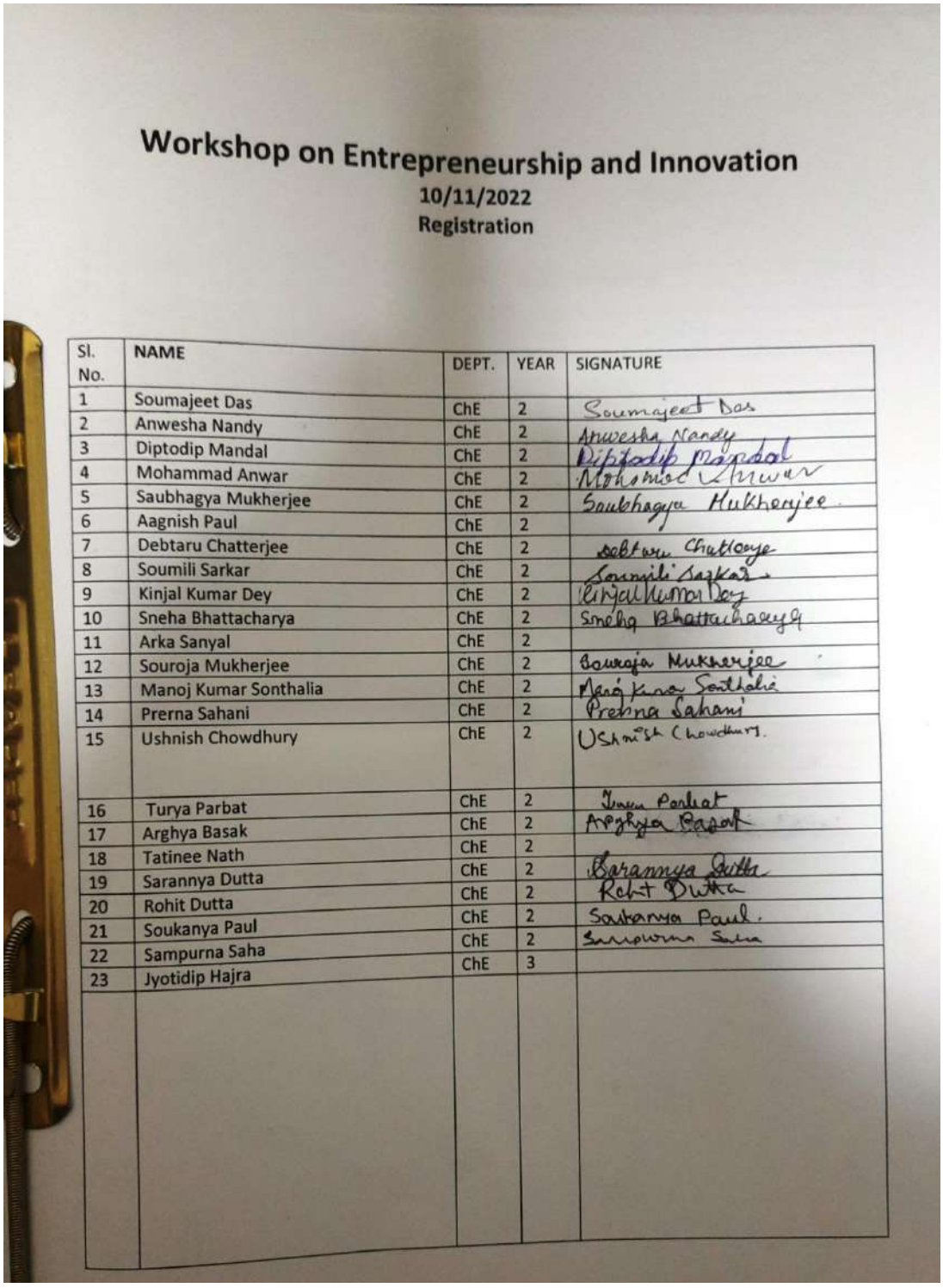
Workshop on Entrepreneurship and Innovation
10/11/2022
Registration

Sl. No.	NAME	DEPT.	YEAR	SIGNATURE
1	Abhranil Misra	ME	4	
2	Sutirtho Dasgupta	ME	3	
3	Ananya Singha	ME	3	
4	Subrata Paul	ME	3	Subrata Paul
5	Avinaba Kar	ME	3	
6	Moinul Hasan Jalali	ME	3	Moinul Hasan Jalali
7	Animesh Kumar	ME	4	
8	Soubhagya Ghosh	ME	3	Soubhagya Ghosh
9	Souvik Roy Chaudhury	ME	4	
10	Ayananta Pramanik	ME	4	Ayananta Pramanik
11	Lalit Saraf	ME	4	LALIT SARAF
12	Abhijeet Kumar Singh	ME	3	Abhijeet Kumar Singh
13	Debrudra Banerjee	ME	4	
14	Ayan Mitra	ME	3	
15	Gairik Dhar	ME	3	
16	Aditya Burnwal	ME	3	
17	Gautam Kumar	ME	3	
18	Rupesh Ghosh	ME	2	
19	Farhan Mia	ME	2	
20	Aritra Ghosh	ME	3	Aritra Ghosh
21	Arghya Biswas	ME	3	Arghya Biswas



Workshop on Entrepreneurship and Innovation
10/11/2022
Registration

	1st Years			
1	Sagnik Mazumder	ME	1	Sagnik Majumder
2	PRIYAM SARKAR	ME	1	
3	Ankit Das	ME	1	
4	Sayan Dasthakur	ME	1	
5	Jeet Sarkar	ECE	1	



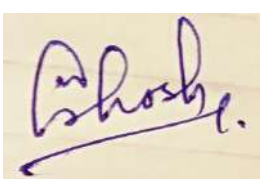
Workshop on Entrepreneurship and Innovation

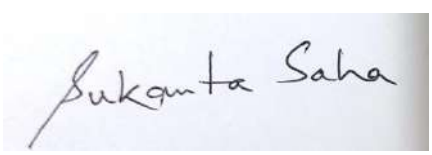
10/11/2022

Registration

Sl. No.	NAME	DEPT.	YEAR	SIGNATURE
1	Soumajeet Das	ChE	2	Soumajeet Das
2	Anwesha Nandy	ChE	2	Anwesha Nandy
3	Diptodip Mandal	ChE	2	Diptodip Mandal
4	Mohammad Anwar	ChE	2	Mohomad Anwar
5	Saubhagya Mukherjee	ChE	2	Saubhagya Mukherjee
6	Aagnish Paul	ChE	2	
7	Debtaru Chatterjee	ChE	2	Debtaru Chatterjee
8	Soumili Sarkar	ChE	2	Soumili Sarkar
9	Kinjal Kumar Dey	ChE	2	Kinjal Kumar Dey
10	Sneha Bhattacharya	ChE	2	Sneha Bhattacharya
11	Arka Sanyal	ChE	2	
12	Souroja Mukherjee	ChE	2	Souroja Mukherjee
13	Manoj Kumar Sonthalia	ChE	2	Manoj Kumar Sonthalia
14	Prerna Sahani	ChE	2	Prerna Sahani
15	Ushnish Chowdhury	ChE	2	Ushnish Chowdhury
16	Turya Parbat	ChE	2	Turya Parbat
17	Arghya Basak	ChE	2	Arghya Basak
18	Tatinee Nath	ChE	2	
19	Sarannya Dutta	ChE	2	Sarannya Dutta
20	Rohit Dutta	ChE	2	Rohit Dutta
21	Soukanya Paul	ChE	2	Soukanya Paul
22	Sampurna Saha	ChE	2	Sampurna Saha
23	Jyotidip Hajra	ChE	3	

Signature of the Program Coordinators:





Summary Sheet

Academic Year	2022-2023
Program driven by	IIC-HITK
Program Supported by	IQAC-HITK
Quarter	Quarter-1
Activity Name	**My Story: Motivational Talk by an Innovator**
Program Date	24.11.2022
Number of Participants	20
Number of Expert Participants, If Any	2
Expenditure, If Any	nothing
Mode of Program Execution	online
Objectives	The basic objective of the program was to motivate the students to carry out innovative ideas and to encourage them to take the ideas forward in term of execution. An interaction with an experienced Innovator would do the needful.
Benefits in terms of learning/skill/knowledge development	➢ Recent innovations in industry 5.0 ➢ Role of Innovation for startup initiatives ➢ Factors that determine the novelty of Innovation ➢ Challenges and obstacles that an innovator often faces ➢ Possible way outs for combating challenges
Program Coordinator (s)	Prof. Chandrima Roy

Attachment	
Video (to be uploaded in the YouTube if any)	no
Photo	Attached
Summary Document/ Overall Report of the Activity	IIC-HITK organized an online program "My Story: Motivational Talk by an Innovator". This program was supported by IQAC cell of HITK. Details of the program are as follows: Date: 24th Nov 2022 Time: 4 pm-4.45 pm. Joining link: https://meet.google.com/zuf-jdny-fwk

Overall Report of the Activity	
Date: 24.11.2022	Time: 04:00p.m.-04.45 p.m.
Speaker: Diptiman Dasgupta Associate Director & Executive IT Architect IBM India Pvt. Ltd	Topic: My Story: Motivational Talk by an Innovator

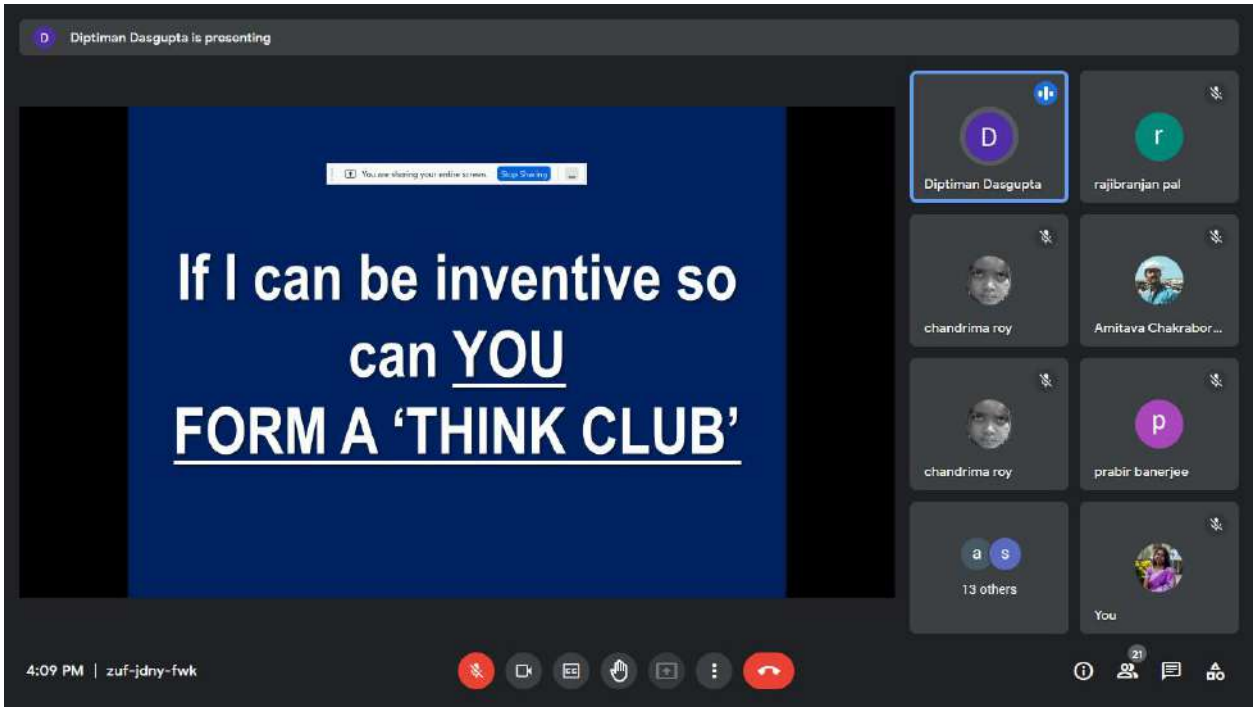
Speaker Profile:

Diptiman Dasgupta (DD) is an IBM Executive IT Architect, Open Group Distinguished Architect and IBM Senior Inventor with 25 years of Industry & Research Experience in the area of Enterprise Architecture (EA), SOA and emerging technology spaces like Blockchain, Quantum Computing, Sustainability and Green IT. He led a large & diverse architecture team in IBM in multiple technical leadership roles like Account & Industry Chief Architect as well as Chief Architect for Emerging & Growth Technology Practices. He was also Architect profession leader in IBM India/South Asia for quite a long period of time.

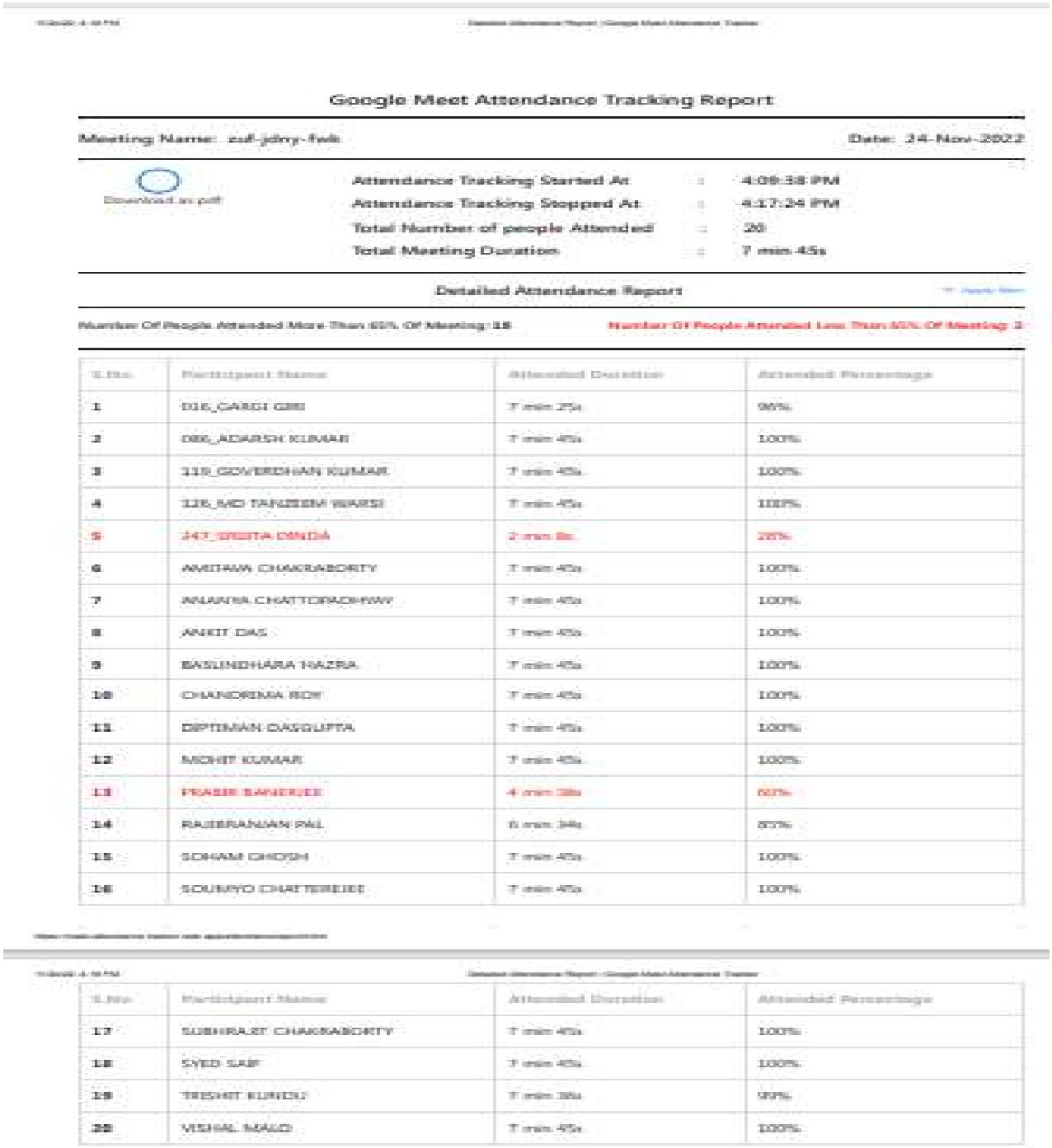
Key Learning and Take-Away:

- Recent innovations in industry 5.0
- Role of Innovation for startup initiatives
- Factors that determine the novelty of Innovation
- Challenges and obstacles that an innovator often faces
- Possible way outs for combating challenges

Picture(s) of the Event:



Record of Participants:



Google Meet Attendance Tracking Report

Meeting Name: [illegible] Date: 24-Nov-2022

Attendance Tracking Started At : 4:09:38 PM
Attendance Tracking Stopped At : 4:17:24 PM
Total Number of people Attended : 20
Total Meeting Duration : 7 min 45s

Detailed Attendance Report

Number Of People Attended More Than 65% Of Meeting: 18 Number Of People Attended Less Than 65% Of Meeting: 2

S.No	Participant Name	Attended Duration	Attended Percentage
1	016_GARGI GIRI	7 min 25s	96%
2	086_ADARSH KUMAR	7 min 45s	100%
3	119_GOVERDHAN KUMAR	7 min 45s	100%
4	126_MD TANZEEM WARSI	7 min 45s	100%
5	147_SREETA DINDA	2 min 8s	28%
6	AMIRAN CHAKRABORTY	7 min 45s	100%
7	ANANYA CHATTOPADHYAY	7 min 45s	100%
8	ANKIT DAS	7 min 45s	100%
9	BASUNDHARA HAZRA	7 min 45s	100%
10	CHANDRIMA ROY	7 min 45s	100%
11	DIPTIMAN DASGUPTA	7 min 45s	100%
12	MOHIT KUMAR	7 min 45s	100%
13	PRABIR BANERJEE	4 min 38s	60%
14	RAJSRANJAN PAL	6 min 34s	85%
15	SOHAM GHOSH	7 min 45s	100%
16	SOUMYO CHATTERJEE	7 min 45s	100%

S.No	Participant Name	Attended Duration	Attended Percentage
17	SUBHRAJIT CHAKRABORTY	7 min 45s	100%
18	SYED SAIF	7 min 45s	100%
19	TRISHIT KUNDU	7 min 36s	97%
20	VISHAL MALO	7 min 45s	100%

Chandrima Roy

Signature of the Program Coordinator:

IEEE MTT–S HITK Student Branch Chapter

Grand Inauguration of IEEE MTT-S HITK SBC & Panel Discussion:
SV Auditorium, HITK
Date: April 10, 2023

The Grand Inauguration of IEEE MTTS HITK SBC was held on April 10th at the SV Auditorium, Heritage Institute of Technology in Kolkata. The event started with a traditional lamp lighting ceremony. The event was graced by the presence of esteemed guests, including Dr. Goutam Chattopadhyay, Senior Scientist at NASA-JPL and Chair of IEEE MTT-S MGA, Dr. Chinmoy Saha, Associate Professor at IIST and MTT-S R-10 Coordinator, Dr. Mrinal Kanti Mandal, Associate Professor at E & ECE Department, IIT KGP, and Dr. K N Siddique, a renowned cardiologist in Kolkata.

After the lamp lighting ceremony, our chapter chair Aryan Basu gave a brief introduction about our chapter. He also introduced the eminent guests to the audience. Then, Aditya Sanyal, a member of the IEEE MTTS HITK SBC, presented an overview of the activities that the SBC had undertaken so far. The presentation highlighted the various initiatives and events that the group had organized and participated in, including workshops, seminars, and conferences.

The main event of the day was a panel discussion on the topic of "Opportunities in IEEE MTT-S: Education and Career Perspective for Students and Professionals." The panel discussion was moderated by the student members of IEEE MTT-S HITK SBC and included the other esteemed guests as panelists. The discussion revolved around the opportunities that the IEEE MTT-S offers to students and professionals, and how the group can leverage these opportunities to enhance their education and career prospects.

The panelists shared their insights and experiences, providing valuable advice to the students and professionals present at the event. They discussed the various programs and initiatives offered by the IEEE MTT-S, including scholarships, awards, and

publications, and how these programs can benefit the members of the group.

At the end of the discussion, the HOD of the ECE Department, Prof. (Dr.) Prabir Banerjee, expressed his gratitude to the guests for their participation in the event. She thanked them for sharing their knowledge and experience and encouraging the members to make the most of the opportunities offered by the IEEE MTT-S.

Overall, the Grand Inauguration of IEEE MTTS HITK SBC was a resounding success. The event provided an excellent platform for students and professionals to learn more about the IEEE MTT-S and the opportunities it offers. The panel discussion was informative and engaging, providing valuable insights and advice to the participants. The event was a great start for the newly-formed HITK SBC and set the tone for the group's future initiatives and events.

Glimpses of the event:

IEEE MTT–S HITK Student Branch Chapter

Heritage Institute of Technology
(An Autonomous Institute under MAKAUT, WB)
(Kalyan Bharti Trust Initiative)
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Phone : (033) 6627 0609 / 0614 / 0622 / 0623 ● Fax : +91 33 2443 0455 ● E-mail : ece@heritageit.edu
www.heritageit.edu
LinkedIn Page: https://www.linkedin.com/company/ieee-mtts-hitk-sbc/

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Report on

Technical Awareness Program (17th November, 2022)

Instrumentation for 5G Network

Organized by

ISOI Student Chapter, HITK, and Department of Applied Electronics and Instrumentation Engineering,

Heritage institute of Technology, kolkata-700107,

Supported by IQAC, HITK.

In order to enhance awareness about the 5G technology, the ISOI student Chapter, HITK, and the Department of AEIE, HITK, had arranged a technical talk for students and faculty members on 'Instrumentation for 5G Network', on 17th November, 2022, in A-Building Seminar Hall at 3:00 P.M.

The program started with the welcome address delivered by Dr. (Prof.) Madhurima Chattopadhyay, HoD, AEIE, and Dr. (Prof.) Basab Chowdhury, Principal-HITK, respectively and they pointed out the requirement of knowledge in 5G technologies in forthcoming days.

Mr. Chanchal Chakraborty, CEO, ATMI Pvt. Ltd., (Ex. VP Reliance JIO Infocomm Ltd.) was invited to share his knowledge. The expert enlightened the participants by his technical knowledge in the field of 5G and explained that it is a unified, more capable air interface. It has been designed with an extended capacity to enable next-generation user experiences, empower new deployment models and deliver new services. With high speeds, superior reliability and negligible latency,

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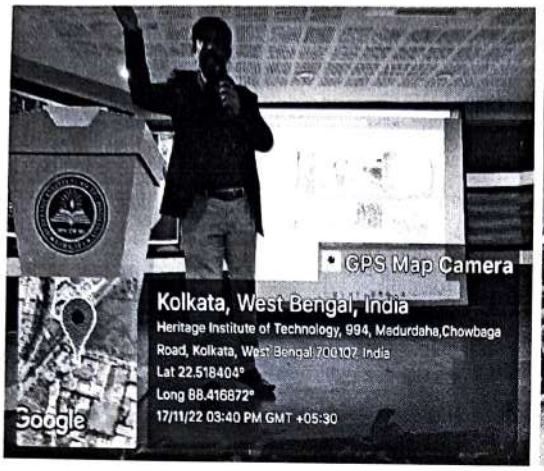
Heritage Institute of Technology, Kolkata

5G will expand the mobile ecosystem into new realms. 5G will impact every industry, making safer transportation, remote healthcare, precision agriculture, digitized logistics — and more — a reality.



More than 150 students, faculty and technical staff members were present in the seminar. The seminar was aimed to enable students and the faculty members to know and improve their technical knowledge in the field of 5G network. Dr. (Prof.) Santanu Ghorai, faculty coordinator of ISOI student chapter, HIT, delivered vote of thanks to the management, HITK, Principal, HITK, and IQAC, HITK, for their support to organize the program. He also expressed his sincere thanks to the expert who accepted our invitation and delivered excellent presentation to enrich our knowledge.

Dr. Madhurima Chattopadhyay, Prof. and HoD,
Department of AEIE,
Heritage Institute of Technology, Kolkata.

Professor & HOD
Applied Electronics & Instrumentation
Heritage Institute of Technology, Kolkata

Report on
General Awareness Program (22nd September, 2022) on

How to Prevent Cancer

Organized by
ISOI Student Chapter, HITK, and Department of Applied Electronics and Instrumentation Engineering,
Heritage institute of Technology, kolkata-700107,
Supported by IQAC, HITK.

In order to get better health and hygiene of human being, the ISOI student Chapter, HITK, and the Department of AEIE, HITK, had arranged a general awareness program for students, faculty and staff members on 'How to Prevent Cancer', on 22nd September, 2022, in Swami Vivekananda Auditorium, Central block, HITK, at 3:00 P.M.

Dr. Arnab Gupta, Director, Saroj Gupta Cancer Centre & Research Institute, Thakurpukur, Kolkata, and Dr. Somsubhra Nath, Scientist, Basic & Translational Research Div., Saroj Gupta Cancer Centre and Research Institute, conducted this awareness program.

The seminar started with the welcome address delivered by Dr. (Prof.) Madhurima Chattopadhyay, HoD, AEIE, followed by, Dr. (Prof.) Basab Chowdhury, Principal-HITK, and they admired the effort made by the ISOI student chapter and the Department of AEIE for arranging such health awareness program and felicitated the speakers.

Both Dr. Arnab Gupta and Dr. Somsubhra Nath, emphasized to educate people about the key risk factors of cancers, since more than 30% of cancer cases could be prevented by modifying lifestyle or

Professor & HOD
Applied Electronics & Instrumentation
Heritage Institute of Technology, Kolkata

avoiding the risk factors. Dr. Gupta informed the audience about the importance of regular screening and check-ups. He showed some typical case studies with facts and evidences. He also alerted the women about mammograms, clinical breast exam and breast self-exam. Dr. Somsubhra Nath highlighted his research work on gene profiling.

More than 150 students, faculty and technical staff members were present in the seminar. The seminar was aimed to aware all about the cancers and how one can lead healthy life by making good habits.

Dr. Madhurima Chattopadhyay, Prof. and HoD,
Department of AEIE,
Heritage Institute of Technology, Kolkata

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