Report on

One Week Online Faculty Induction Workshop on Thrust Areas

in association with IEEE

from 10-10-2022 to 15-10-2022

MADANAPALLE INSTITUTE OF TECHNOLOGY & SCIENCE
(UGC-AUTONOMOUS INSTITUTION)

Affiliated to JNTUA, Ananthapuramu & Approved by AICTE, New Delhi
NAAC Accredited with A+ Grade, NIRF India Rankings 2021 – Band: 201-250 (Engg.)
NBA Accredited - B.Tech. (CIVIL, CSE, ECE, EEE, MECH), MBA & MCA

DEPARTMENT OF COMPUTER SCIENCE & ENGINEERING

Organizing

ONE WEEK ONLINE FACULTY INDUCTION WORKSHOP ON THRUST AREAS
FROM 10-10-2022 TO 15-10-2022

THRUST AREAS COVERED

BLOCK CHAIN | IOT | CLOUD COMPUTING | IMAGE PROCESSING | ARTIFICIAL INTELLIGENCE | MACHINE LEARNING

Chief Patron
Dr. N. Vijaya Bhaskara Choudary
Secretary & correspondent

Patron
Mrs. N. Keerthi Nadella
Executive Director

Program Chair
Dr. C. Yuvaraj
Principal

Co-Chair
Prof. Goutam Chakraborty
Distinguished Professor & Dean
Dr. R. Kalpana
Professor & Head Dept. of CSE

Convener
Dr. G. N. Vivekananda
Associate Professor
SMIEEE, LMCSI, LMISTE, MIE
IEEE coordinator,
Dept. of CSE, MITS

Co-ordinators
Dr. P. V. Venkateshwara rao,
Associate professor
ISTE coordinator
Dept. of CSE, MITS

Mrs. S. Kusuma (PhD)
Assistant Professor
Dept. of CSE, MITS

Organizing Committee
Dr. V. Arun, Professor, MITS.
Dr. G. Arun Kumar, Assoc. Prof., MITS.
Dr. D. J. Ashpin Pabi, Asst. Prof., MITS.
Mr. G. Sreenivasulu, Asst. Prof., MITS.
Mrs. V. Nirupa, Asst. Prof., MITS.
Mrs. R. Usha, Asst. Prof., MITS.
Ms. G. Vasundara Devi, Asst. Prof., MITS.
Mr. BSH. Shayeez Ahamed, Asst. Prof., MITS.
Mr. Gowtham A, Asst. Prof., MITS.
Mrs. V. Geetha, Asst. Prof., MITS.

Dr. K. Veningston
Assistant Professor,
NIT Srinagar, J&K

Dr. Syed Muzamil Basha
Associate Professor,
School of CSE,
REVA University, Bangalore

Dr.G. Arun Kumar
Associate Professor,
MITS, Madanapalle
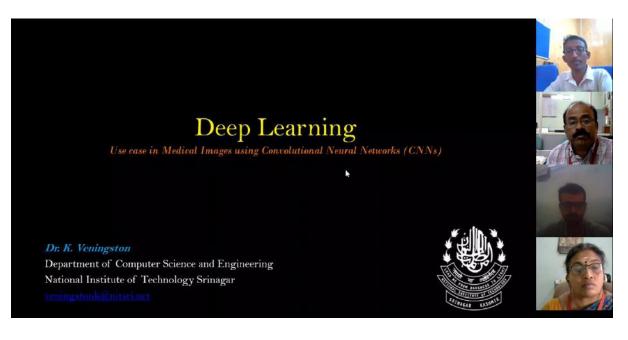
Mrs. S. Kusuma
Assistant Professor,
MITS, Madanapalle

Vivekananda GN

Dr. Mahaboob Basha Shaik
Professor,
MITS, Madanapalle.

Dr. J. Somasekar
Professor & Head,
GCE, Bangalore.

FDP Registration form: https://forms.gle/GZ4aGTxn6VrLkoCS9

* Minimal registration fee: Rs.200/-
* Certificate and Resources will be provided

Submitted by:

Convener: Dr. G.N. Vivekananda, Associate Professor, Dept. of CSE.

Coordinators: Dr. P.V. Venkateshwara Rao, Associate Professor, Dept. of CSE

Mrs. G. S.Kusuma, Assistant Professor, Dept. of CSE

Resource persons:

Dr. K. Veningston, Assistant Professor, NIT Srinagar, J&K.

Dr. Syed Muzamil Basha, Associate Professor, School of CSE, REVA University, Bangalore.

Dr.G. Arun Kumar, Associate Professor, MITS, Madanapalle.

Mrs. S. Kusuma, Assistant Professor, MITS, Madanapalle.

Dr. Mahaboob Basha Shaik, Professor, MITS, Madanapalle.

Dr. J. Somasekar, Professor & Head, GCE, Bangalore.

Mode of Delivery: Online Mode through Microsoft Teams

A One Week Online Faculty Induction Workshop on Thrust Areas Programme was conducted from 10-10-2022 to 15-10-2022 in virtual mode. One Hundred and Ten faculty members and research scholars from various departments across the country attended the workshop.

The programme started at 10.00 am with a welcome address given by Dr. R. Kalpana, Head of the Department, CSE. The presidential address followed by the Inaugural speech was given by Dr. C. Yuvaraj, Principal, and the felicitation address followed by the Resource Person introduction given by Dr. D G.N.Vivekananda.

The resource person for the Day 1, session 1 is Dr. K. Veningston, Assistant Professor, Dept. of Computer Science & Engineering, NIT Srinagar. He started the session with briefly explaining about the history of Deep learning. He emphasized FCNN, DNN, CNN, and their differences. LaNeT architecture is explained. Demo of Image classification task is shown. With the colab, hands on session are conducted on medical image analysis. And, the resource person finally concluded the session with improvements that can be made to DNN for future augmentations. The participants queries were answered by the resource person. Dr. K. Veningston was presented with a certificate of appreciation for acting as a valuable resource person.

Day 2 - Session 2: 11-10-2022 Tuesday
Topic: Recent trends and applications of cyber security

On Day 2 session 2, the resource person was introduced by Dr. G.N.Vivekananda. The resource person is Dr. Syed Muzamil Basha, Associate Professor, School of CSE, REVA University, Bangalore. He started the session with introduction of Kali and Linux operating systems, and their role in penetration testing. Usage of Shodan, OSINT framework are explained. The resource person shown the hands on, on Bruteforcing, Shell scripting, Installing metasploitable, SQL injection, XSS , Using Metasploit, Running multiple exploits against metasploitable. Research areas are deliberated. At last, the open challenges in cyber security and cyber defense are discussed. The participants queries were answered by the resource person. Dr. K. Syed Muzamil Basha was presented with a certificate of appreciation for acting as a valuable resource person.
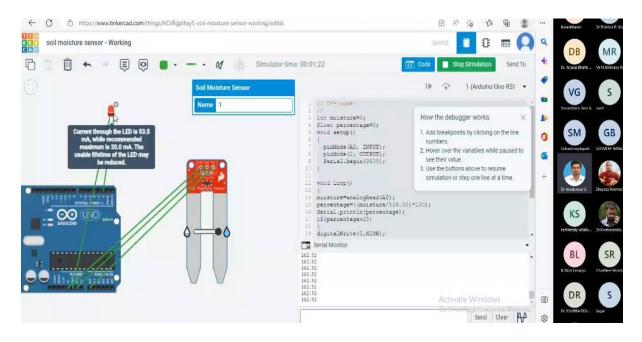
Day 3 - Session 3: 12-10-2022, Wednesday

Topic: Simulation of IoT Applications

Agenda (1 hrs Theory +1.5 hrs – Hands-on)

1. Introduction
2. Definition
3. Global Market of IOT
4. IOT Architecture
5. IOT Layers
6. Building Blocks of IOT
7. Application of IOT
8. Challenges in IOT
9. Research Need & Scope
10. Future Application of IOT
11. Hands-on Session – (Tinkercad., Wokwi ., Arudino IDE)

On Day 3 session 3, the resource person was introduced by Dr.G.N.Vivekananda. The resource person is Dr.G. Arun Kumar, Associate Professor, Dept. of CSE, MITS, Madanapalle. He started with the introduction of the evolution of IoT, Architecture, layers of IoT, Building blocks, IoT devices, its applications.   Hands on session is shown in Tinkercad, Wokwi, and Arudino IDE. Starting with the basic simulations, the Dr. Arun shown the usage of various sensors practically. Various applications of Raspberry PI are shown. The session is concluded by a discussion on Challenges, and Research directions. The participants queries were answered by the resource person. Dr.G. Arun Kumar was presented with a certificate of appreciation for acting as a valuable resource person.
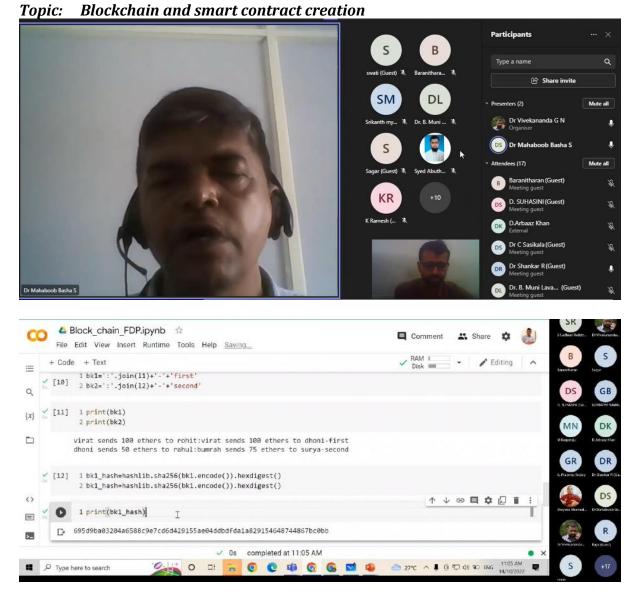
Day 4 - Session 4: 13-10-2022, Thursday

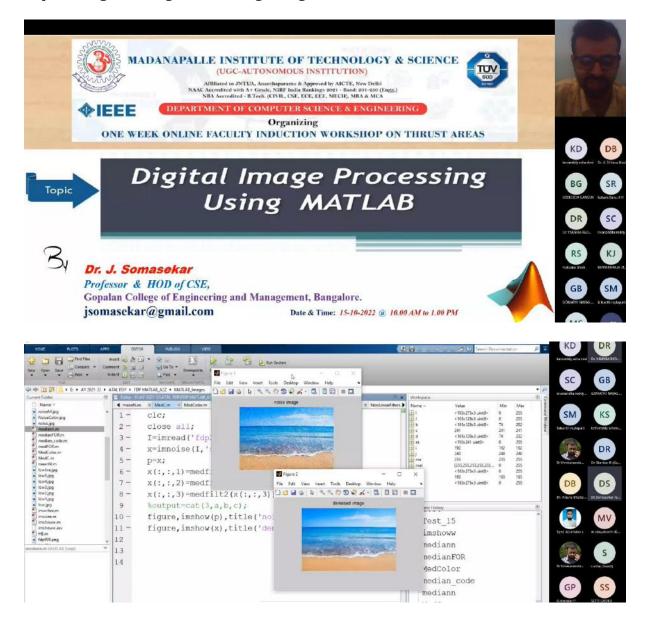*Topic: AI/ML applications in health informatics*

On Day 4 session 4, the resource person was introduced by Mr. G.N.Vivekananda. The resource person is Mrs. S. Kusuma, Assistant Professor, Dept. of CSE, MITS. She has started with an Introduction and comparison of Artificial intelligence, Machine learning, Deep learning, and Data Science. And discussed AI/ML Applications in Health Informatics. Importance, opportunities, and challenges of AI/ML in Health Informatics are elaborated. Introduction to Python packages and hands on session to build Artificial neural network for diabetes prediction is illustrated. Hands on session for Predicting Heart Disease using Logistic regression, Random Forest and Decision tree classifiers are clearly demonstrated in the colab. The participants queries were answered by the resource person. Mrs.S.Kusuma was presented with a certificate of appreciation for acting as a valuable resource person.

Day 5 - Session 5: 14-10-2022, Friday

Topic: Blockchain and smart contract creation

On Day 5 session 5, the resource person was introduced by Dr.G.N.Vivekananda. The resource person is Dr. Mahaboob Basha Shaik, Professor, Dept. of CSE, MITS. He started the with the fundamentals of Blockchain, its benefits and challenges. Blockchain 2.0 and its architecture is explained. Ethereum and Metamask are explained. Fundamentals of solidity are explained. The hands on, Blockchain application development and Transaction management are demonstrated. Smart contract management using colab is shown. He concluded the session explaining how the blockchain may impact the future. The participants queries were answered by the resource person. Mrs. S.Kusuma, presented the certificate of appreciation to Dr. Mahaboob Basha Shaik for his valuable session for acting as a valuable resource person.
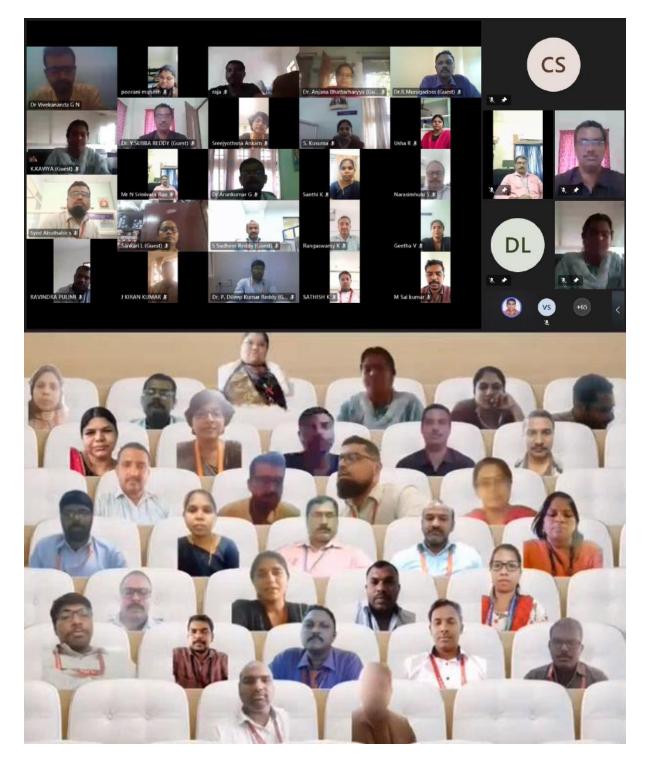
Day 6 - Session 6: 15-10-2022, Saturday

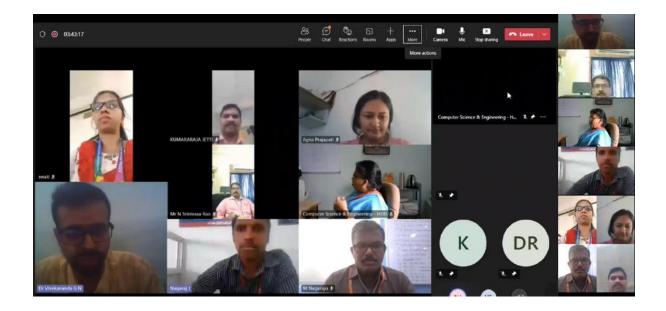*Topic: Digital Image Processing using MATLAB*

Day 6 session 6, the resource person was introduced by Dr. G.N. Vivekananda. The resource person is Dr. J. Somasekar, Professor & Head, GEC, Bangalore. He started the session with the basics of DIP. He clearly explained the real time applications with image processing. Several DIP techniques like noise reduction, enhancement, and segmentation were demonstrated. Various tools used for DIP are shown. Later, he started the introduction to MATLAB. Hands on session on image processing was carried out on various features with different images . Filters, smoothing techniques, Equalization techniques are demonstrated. The resource person concluded the session with a brief discussion on research directions, and resources. The participants queries were answered by the resource person. Dr. J. Somasekar was presented with a certificate of appreciation for acting as a valuable resource person.

The valedictory talk was given by Dr. R. Kalpana, Professor and Head, Dept. of CSE. Finally, the session was concluded by the vote of thanks delivered by Dr.G.N.Vivekananda. He extended his thanks to the Management, Principal, HoD, Coordinators, organizing committee, Resource persons, colleagues, and the faculty participated for the successful completion of this event.

Faculty has given their valuable feedback on all the sessions.

After the valedictory session, quiz is posted to assess the faculty over the one-week sessions.

<u>Summary of the Report:</u>

Title of the Programme: One Week Online Faculty Induction Workshop on Thrust Areas

Number of participants registered: 110

Number of participants from Different states:

- **Andhra Pradesh: 70**
- **Telangana: 12**
- **Karnataka: 08**
- **Tamilnadu: 16**
- **West Bengal: 01**
- **Maharashtra: 01**
- **Bihar: 01**
- **Gujarat: 01**

Number of participants attendance (>=75%): 110

Number of participants quiz score (>=50): 110

Thank you.

Best Regards,

Dr.G.N. Vivekananda,

Associate Professor,

Dept. of CSE, MITS, Madanapalle.