

Report on
One Week Online Faculty Development Programme
on
Recent Tools & Techniques for Data Science and Artificial Intelligence
in association with **Institution Innovation Council**
from **19.09.2022 to 26.09.2022**



MADANAPALLE INSTITUTE OF TECHNOLOGY & SCIENCE
(UGC-AUTONOMOUS INSTITUTION)
AFFILIATED TO INTU, ANANTHAPURAM & 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

Organizes
ONE WEEK ONLINE FACULTY DEVELOPMENT PROGRAMME
on
**RECENT TOOLS & TECHNIQUES FOR
DATA SCIENCE AND ARTIFICIAL INTELLIGENCE**
from 19.09.2022 to 25.09.2022

Chief Patron
Dr. N. Vijaya Bhaskar Choudary
Secretary & Correspondent

Patron
Mrs. N. Keerthi Nadella
Executive Director

Program Chair
Dr. C. Yuvaraj
Principal

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

Convener
Dr. D. Jagadeesan
Professor of CSE

Co-ordinators
Mr. B. Anandaraj
Asst. Prof. of CSE
Mr. G. Muthugurunathan
Asst. Prof. of CSE

FDP Registration form : <https://forms.office.com/98F9d9639b33>
* No registration fee. * Certificate will be provided.

Submitted by: Convener: Dr. D. Jagadeesan, Professor, Dept. of CSE
Coordinators : Mr. B. Anandaraj, Assistant Professor, Dept. of CSE
Mr. G. Muthugurunathan, Assistant Professor, Dept. of CSE

Report Received on 13.10.2022

Resource persons:

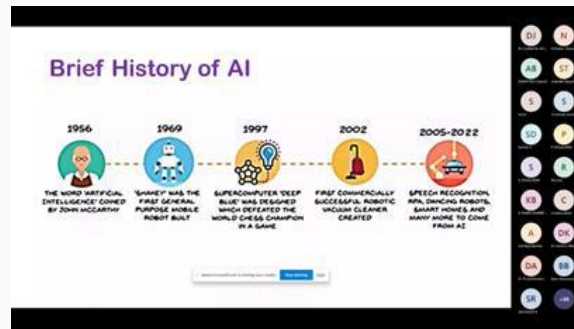
Dr. R. Kalpana, Professor, PTU, Puducherry
Dr. M. Anand Kumar, Asst. Prof., NIT, Karnataka
Dr. Srinivasan Sriramulu, Professor, Galgotias University
Dr. N. Karthik, Assoc. Prof., Vel Tech
Dr. T. Vivekanandan, Prof. and Head, SVCET
Dr. Basabi Chakraborty, Professor & Dean, CST, MITS
Dr. Mahaboob Basha Shaik, Professor, CSE, MITS
Dr. K. Lakshmi, Professor, CSE, MITS
Dr. K. Chokkanathan, Assoc. Prof. and Head, CSE-AI & DS, MITS
Dr. R. Nidhya, Professor, CSE, MITS
Dr. G. N. Vivekananda, Assoc. Prof., CSE, MITS
Dr. D. J. Ashpin Pabi, Asst. Prof., CSE, MITS

Mode of Delivery: Online Mode through Microsoft Teams

A one-week Faculty Development Programme was conducted from 19.09.2022 to 26.09.2022 in virtual mode. Four hundred and eighty faculty members from various departments across the country attended the FDP.

The programme started at 10.00 am with a welcome address given by Dr. R. Kalpana, Head, Department of CSE. The Inaugural speech given by Dr. C. Yuvaraj, Principal, and felicitation address given by Dr. P. Ramanathan, Vice-Principal Academics and followed by the Resource Person introduced by Dr. D. Jagadeesan, Professor.

Day 1: 19.09.2022, Monday



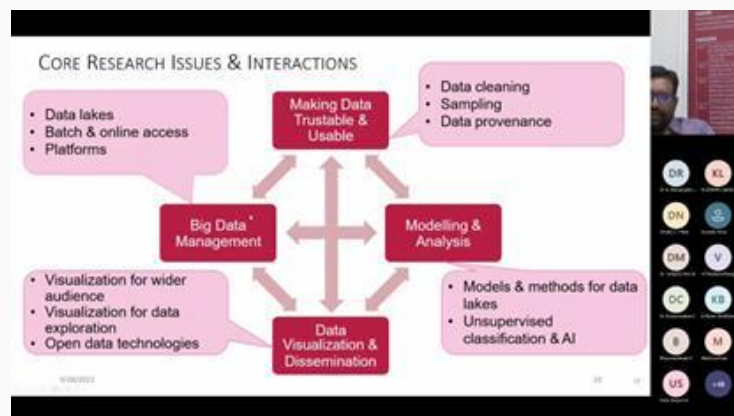
The resource person, Dr. K. Chokkanathan, Associate Professor and Head, Dept. of AI&DS, MITS. He started the session with briefly explaining about the introduction to Artificial Intelligence and history of AI. He highlighted how the AI works in different domains, explained the types of AI and importance of AI in the real-world applications. He mentioned the different advanced AI tools and techniques for solving the real time problem solving. Finally, explained various challenges and future scope of the AI.

Day 2 - Session 1: 20.09.2022 Tuesday



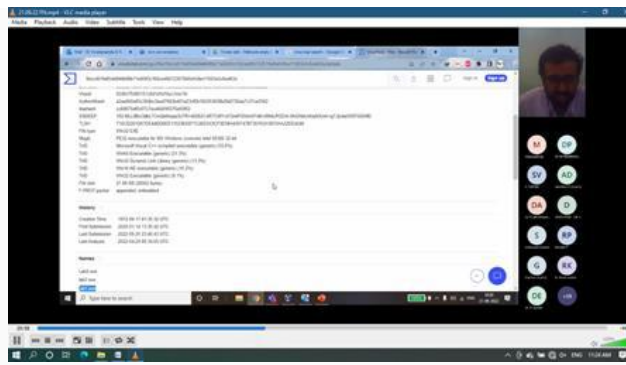
Day 2 session 1, the resource person introduced by Dr. D. Jagadeesan, Professor. The resource person, Dr. R. Nidhya, Professor, MITS. She started the session with introduction about the Machine Learning and Deep Learning. She briefly explained Machine Learning frameworks, types of different algorithms with real time examples, Neural Networks and structure of Neural Networks with real time applications.

Day 2 - Session 2: 20.09.2022 Tuesday



Day 2 session 2, the resource person introduced by Mr. G. Muthugurunathan, Assistant Professor. The resource person Dr. Srinivasan Srinamulu, Professor of CSE, Galgotias University. He started with the introduction to Data Science and life cycle of Data Science. He explained clearly about the importance of Data Science for modern problems and Holistic approach of Data Science and core Research areas. Also, he demonstrated different tools using for Data Science with real time applications.

Day 3 - Session 1: 21.09.2022, Wednesday



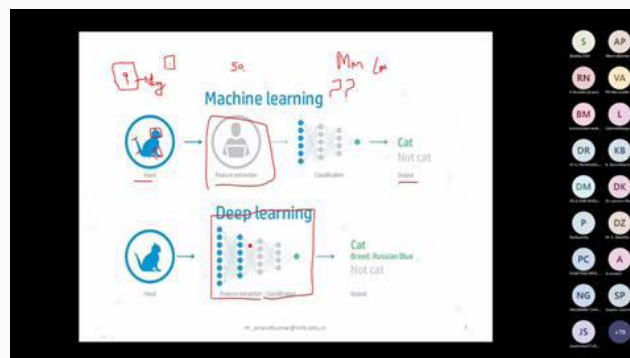
Day 3 session 1, the resource person introduced by Mr. B. Anandaraj, Assistant Professor. The resource person Dr. G. N. Vivekananda, Assoc. Prof., MITS. He started with the introduction about the malware analysis and various malware analysis taxonomies, explained about the different analysis methods and Malware Analysis in IOT and Android. Also, he demonstrated the different algorithms in Malware Analysis using Data Science.

Day 3 - Session 2: 21.09.2022, Wednesday



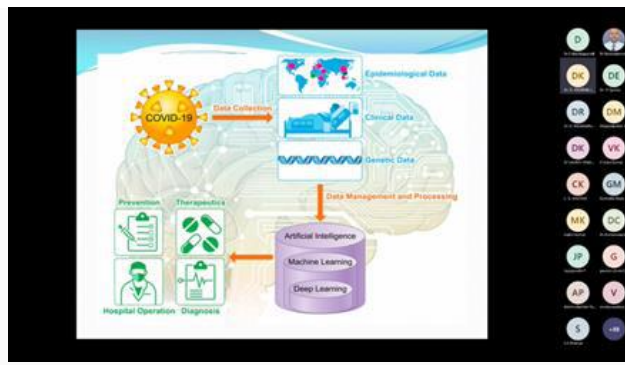
Day 3 session 2, the resource person introduced by Mr. G. Muthugurunathan, Assistant Professor. The resource person, Dr. T. Vivekanandan, Prof. and Head, SVCET started with the introduction about the Big Data and characteristics of Big Data. He gave the brief talk on architectural framework and practices in Big Data. Also, he explained about the different Big Data tools with statistics and facts in the recent years.

Day 4 - Session 1: 22.09.2022, Thursday



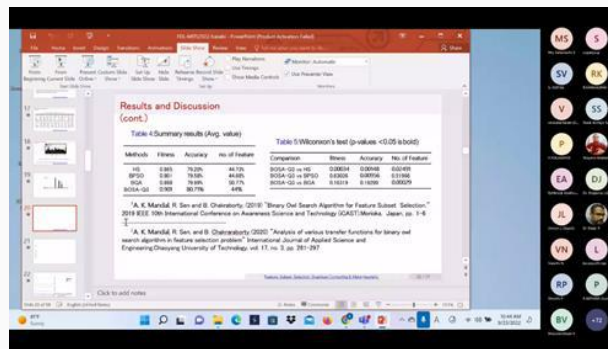
Day 4 session 1, the resource person introduced by Mr. B. Anandaraj, Assistant Professor. The resource person, Dr. M. Anand Kumar, Asst. Prof., NIT, Karnataka started with an introduction about the Machine Learning and Deep Learning. Also, he explained about the importance of Deep Learning with various real time examples.

Day 4 - Session 2: 22.09.2022, Thursday



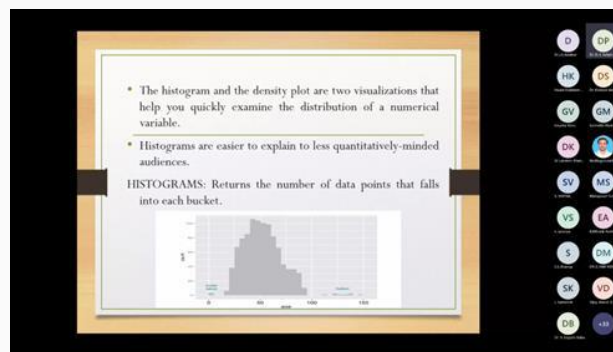
Day 4 session 2, the resource person introduced by Mr. G. Muthugurunathan, Assistant Professor. The resource person, Dr. R. Kalpana, Professor, PTU, Puducherry started with the introduction to Health Informatics and needs for automated system. She explained the role of Learning techniques for Health Informatics. She briefly explained about the Machine Learning techniques and Deep Neural Networks. She demonstrated various statistics in real time applications in various domains.

Day 5 - Session 1: 23.09.2022, Friday



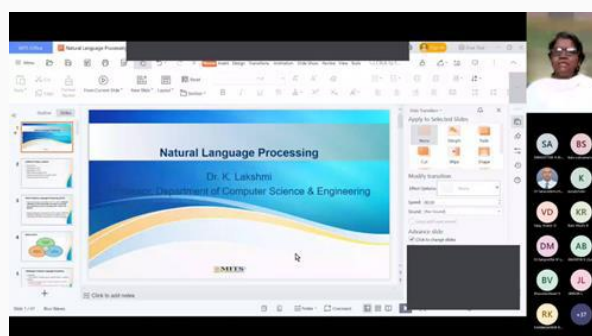
Day 5 session 1, the resource person introduced by Dr. D. Jagadeesan, Professor. The resource person, Dr. Basabi Chakraborty, Professor & Dean, MITS. She started the with introduction about the feature subset selection and OSA algorithm, explained about the BOSA, MBOSA techniques. Also, she briefly explained about the Quantum Computing and Quantum inspired OSA with different methodologies.

Day 5 - Session 2: 23.09.2022, Friday



Day 5 session 2, the resource person introduced by Mr. G. Muthugurunathan, Assistant Professor. The resource person, Dr. D. J. Ashpin Pabi started with introduction about Data Science and different stages of Data Science projects. She explained about the life cycle of Data Science and then she demonstrated various real time applications in Data Science using R.

Day 6 - Session 1: 24.09.2022, Saturday



Day 6 session 1, the resource person introduced by Mr. G. Muthugurunathan, Assistant Professor. The resource person, Dr. K. Lakshmi, Professor, MITS started session with introduction to the Natural Language Processing and challenges in it. She covered the applications of NLP in real time. Finally, she demonstrated the some real time problems in NLP.

Day 6 - Session 2: 24.09.2022, Saturday

Hands-on Session handled by Dr. D. Jagadeesan, Professor of CSE, Mr, G. Muthugurunathan, Assistant Professor of CSE, and Mr. B. Anandaraj, Assistant Professor of CSE.

Day 7 - Session 1: 26.09.2022, Monday

Scope of CART in IoT

- The main strength of CART is that it is scalable to large datasets, human interpretable, and fast.
- However, it suffers from irregular labeling of input data points and high sensitivity to the selection of training set.
- CART has found great applicability in classifying smart citizen behavior.
- It is also used to find the travel patterns of transit riders in China.

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Day 7 session 1, the resource person introduced by Mr. B. Anandaraj, Assistant Professor. The resource person Dr. N. Karthik, Assoc. Prof., Vel Tech started the session with the introduction to Internet of Things. Then he explained about the convergence of Machine Learning and IoT. He briefed about the taxonomy of Machine Learning techniques. He denoted the scope of different Machine Learning algorithms in IoT. Finally, he mentioned the current research directions in Machine Learning techniques.

Day 7 - Session 2: 26.09.2022, Monday

fdo_26_Sep_22.ipynb

```
data=np.random.randn(100)
for i in range(100):
    print(data[i])
```

completed at 7:13 PM

Day 7 session 2, the resource person introduced by Dr. D. Jagadeesan, Professor. The resource person Dr. Mahaboob Basha Shaik, Professor, MITS started the session with different companies organizing the data in data centers. Then he started with the concepts of Data Visualization and why & when to use it. He pointed out the principles of Data Visualization. Also, he demonstrated different kinds of charts in Data Visualization using python libraries.

The valedictory talk given by Dr. R. Kalpana, Professor and Head, Dept. of CSE. Finally, the session was concluded by the vote of thanks delivered by Dr. D. Jagadeesan, Professor, Dept. of CSE. He extended his thanks to the Management, Principal, HoD, Chief Guest and the participated students for the successful completion of this event.