MADHAV INSTITUTE OF TECHNOLOGY & SCIENCE, GWALIOR

(A Govt. Aided UGC Autonomous & NAAC Accredited Institute Affiliated to RGPV, Bhopal)

DEPARTMENT OF INFORMATION TECHNOLOGY

Date:29-05-2023

Activity Report

Title of activity:	In-house Faculty Training module on "Artificial Intelligence and Machine Learning"
Duration of activity:	21 Jan, 2023 to 31 Mar, 2023
Number of participants:	Nine (09)(Internal Faculty member from other core department)
Organized by:	Department of Information Technology
Brief Description of the activity:	The training module was conducted with an intent to equip the internal faculty members of other departments with the concepts and tools of Artificial Intelligence and Machine Learning. The contents delivered during the training module are described briefly as: - Day-1: The module started with an introduction to the concepts of Artificial intelligence, its scope, applications etc., delivered by Dr. Ashish Soni. - Day-2: During the second day of the module, the concepts of K Nearest Neighbours were discussed with hands-on practice problems. The sessions for this day were delivered by Dr. Sunil Kumar Shukla. - Day-3: The sessions for this day were delivered by Dr. Sunil Kumar Shukla, during which he discussed the overview of Decision Tree. He has also discussed the implementation of Decision Tree using Python. - Day-4: During the session, Dr. Sunil Kumar Shukla discussed the limitations associated with Decision Tree. He also described the advantage of Random Forest over Decision Tree. Finally, the session was concluded with the implementation of Random Forest using Python. - Day-5: Dr. Anshika Srivastava discussed the importance of Image Processing in the field of AI and ML because it enables the pre-processing, feature extraction, object recognition, image understanding, image generation, and analysis of complex data. The session was interactive and accompanied with practical on the related tools. These capabilities are essential for a wide range of applications, from computer vision systems to medical imaging and beyond. - Day-6: Dr. Anshika Srivastava discussed the coding that can be done using python for colour detection, image segmentation, image enhancement, image correction such as smoothing and sharpening of the image. Practical deliberation accompanied the session. These features serve as inputs for AI and ML models, allowing them to understand and interpret visual data. - Day-7: Dr. Ashish Soni has delivered the lecture on machine learning and its internal working principle. He also applied this technique on the image and tabular data. During all the sessions of the training module a thorough hands-on practice was carried out using Google Colab, Spider, Jupyter, Anaconda etc., to clearly explain and implement the concepts of Artificial Intelligence and Machine Learning, feedback was taken at the end of the training module.

Anshika
7/6/23

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Name of the Trainers:	• Dr. Sunil Kumar Sukla • Dr. Anshika Srivastava • Dr. Ashish Soni
Objectives of the activity:	• To provide the fundamental knowledge of AI and ML. • To present the implementation of basic Machine learning techniques in the pre-defined dataset using Python programming. • To understand the working principle of AI and ML.
Outcomes of the activity:	After completing the activity, the participants were able to: • Define different machine learning techniques. • Illustrate various libraries used for ML techniques. • Apply ML techniques to solve real world problems. • Define the image processing technique using AI. • Illustrate the mathematical understanding of ML. • Apply ML techniques to solve Image processing problems.
Mode of activity:	Offline in Computing Lab, Dept. of IT

7/6/2023

Dr. Sunil Kumar Shukla

7/6/23

Dr. Anshika Srivastava

07/06/2023.

Dr. Ashish Soni

07.6.23

Dr. Akhilesh Tiwari
(Prof. & Head)

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Event Schedule:

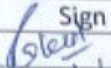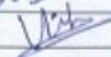| Day	Time	Course Contents	Trainer Name	Mode of Delivery
Day 1 (21/01/ 2023)	11:00 am to 12:00 noon	Introduction of AI and ML technique and its application on the different domains such civil, mechanical, chemistry.	Dr.Sunil Kumar Shukla Dr. Anshika Srivastava Dr. Ashish Soni	Lecture cum discussion mode (online mode)
Day 2 (04/02/ 2023)	05:00 PM to 06:00 PM	Overview of K-Nearest Neighbours Algorithm and its implementation using Python.	Dr.Sunil Kumar Shukla Dr. Anshika Srivastava Dr. Ashish Soni	Lecture cum discussion mode with hands-on (Offline Mode)
Day 3 (10/02/2023)	05:00 PM to 06:00 PM	Introduction of Decision Tree and Its implementation for solving Tabular dataset	Dr.Sunil Kumar Shukla Dr. Anshika Srivastava Dr. Ashish Soni	Lecture cum discussion mode with hands-on (Offline Mode)
Day 4 (17/02/ 2023)	05:00 PM to 06:00 PM	Overview of Random Forest. Advantages of Random Forest over Decision Tree. Implementation of Random Forest using Python.	Dr.Sunil Kumar Shukla Dr. Anshika Srivastava Dr. Ashish Soni	Lecture cum discussion mode with hands-on (Offline Mode)
Day 5 (03/03/ 2023)	05:00 PM to 06:00 PM	Introduction to Image Processing, Fundamental Unit of Digital Image Processing, Image processing application in AI and ML, Colour Detection through Image Processing, Image Segmentation	Dr.Sunil Kumar Shukla Dr. Anshika Srivastava Dr. Ashish Soni	Lecture cum discussion mode with hands-on (Offline Mode)
Day 6 (17/03/ 2023)	05:00 PM to 06:00 PM	Image Enhancement, Spatial Domain Filtering, Smoothing and Sharpening of an Image, Analysis of images features extracted.	Dr.Sunil Kumar Shukla Dr. Anshika Srivastava Dr. Ashish Soni	Lecture cum discussion mode with Hands on (Offline Mode)
Day 7 (31/03/ 2023)	05:00 PM to 06:00 PM	Understood about the mathematical aspect of Neural Network with implementation of image classification and tabular data regression.	Dr.Sunil Kumar Shukla Dr. Anshika Srivastava Dr. Ashish Soni	Lecture cum discussion mode with hands-on (Offline Mode)

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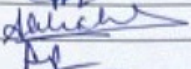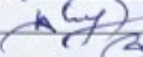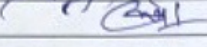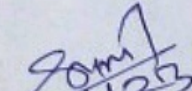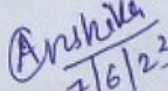07/06/23

Department of IT

Date 04/02/2023

Offline session on AI&ML

S.No.	Name of Faculty	Sign
1	Dr. Rakesh Kr Dubey	Rakesh
2	Dr. Vikram	Vik
3.	Hemant shrivastavs	
4.	Abhilash shukla	Abhilash
5.	Dr. N Paliwal	
6.	Dr. Atul Kumar Ray	
7	Dr. Shourabh Singl Raghuvanshi	

nikhil7@mits gwalior.in

7/6/23   Anshika 7/6/23   7/06/23

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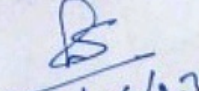
Department of IT

Date 10/02/2023

Offline session on AI&ML

S.No.	Name of Faculty	Sign
1.	Madhav Singh	Nan
2.	Varun Sharma	Bha.
3.	Vikram	Vik
4.	Rakesh Kr. Dubey	Sobal
5.	Dr. N. Paliwal	A
6.	Dr. Atul Kumar Ray	ACy
7.)	Dr. Shourbh Singh Raghuvanshi	Car

Sam
7/6/23

Aruhita
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7/6/23

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Department of IT

Date 17/02/2023

Offline session on AI&ML

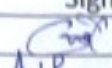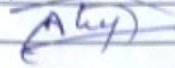| S.No.	Name of Faculty	Sign
1	Dr. N. Paliwal	
2.	Dr. Rakesh Kr. Dubey	
3.	Dr. Atul Kumar Ray	
4.	Dr. Hemant Shrivastava	
5.	Dr. Vikram	
6.	Dr. ShashikSingh Raghuwanshi	

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Department of IT

Date 03/03/2023

Offline session on AI&ML

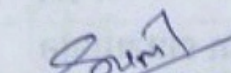| S.No.	Name of Faculty	Sign
1.	Dr. Rakesh Kr. Dubey	
2.	Dr. Atul Kumar Ray	
3.	Dr. Hemant Shrivastava	
4)	Dr. Vikram	
5.	Mr. Shourabh Singh Rajhwanshi	
6.	Dr. Nikhil Paliwal	

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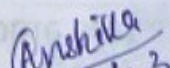(A Govt. Aided UGC Autonomous & NAAC Accredited Institute Affiliated to RGPV, Bhopal)
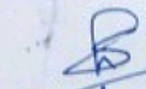
Department of IT

Date 17/03/2023

Offline session on AI&ML

S.No.	Name of Faculty	Sign
1.	Jon. Shourabh Sngh Rajhawathi	
2.	Dr. N. Paliwal	N.P
3.	Dr. Atul Kumay Rauy	Aty)

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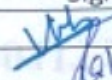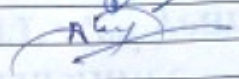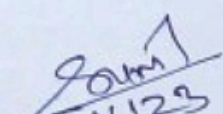
Department of IT

Date 30/3/2023

Offline session on AI&ML

S.No.	Name of Faculty	Sign
1	Dr. Vikram	
2.	Dr. Rakesh kr. Dubey	
3.	Dr. Atul Kumar Roy	

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Assessment of Faculty Training module

S No.	Name	Quiz Marks
1	Dr. Nikhil Paliwal	15 / 25
2	Dr. Atul Kumar Ray	16 / 25
3	Hemant Shrivastava	17 / 25
4	Dr. Vikram	16 / 25
5	Abhilash shukla	19 / 25
6	Dr. Rakesh Kumar Dubey	18 / 25
7	Madhav Singh	13 / 25
8	Shourabh Raghuwanshi	Absent
9	Varun Sharma	Absent

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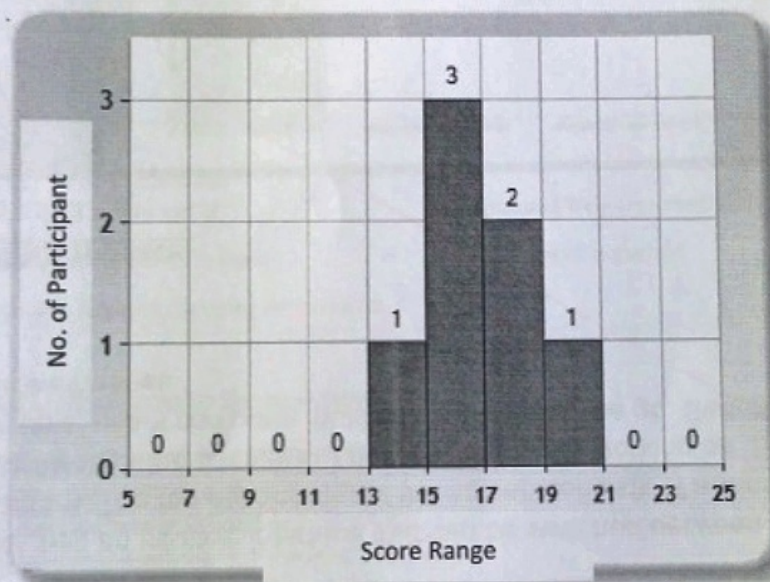
Event Feedback Analysis:

Feedback Response

Legend:
- The overall quality of lectures?
- Helpful and Well-organized lecture
- Enhances the visiblity to Real-world
- Notes are well organized
- interactive and respectful learning environment
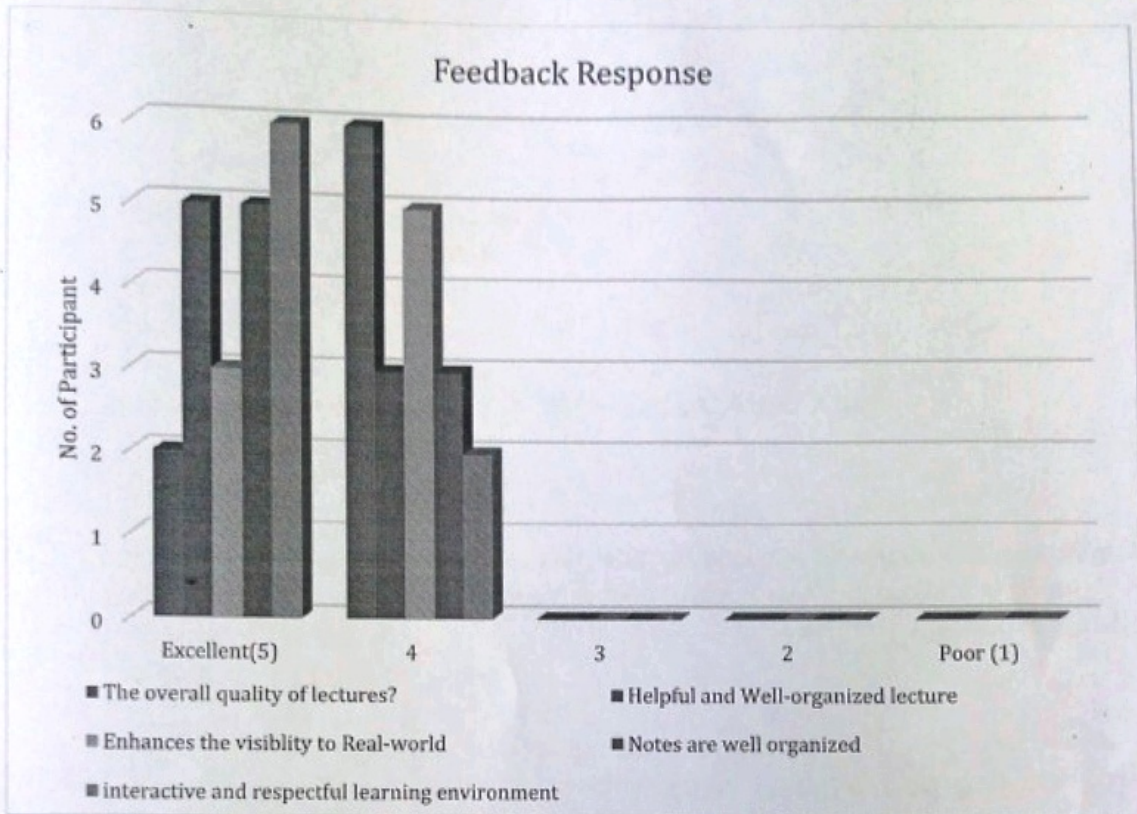
Additional comments/suggestions by the participants:

- All the sessions were very informative as well as interactive.
- Thanks for the conduction of such training.
- Interaction session was good and helped a lot.
- Very nice teaching sessions. Informative sessions.
- It was a really helpful In-house FDP. All the sessions were very interesting and informative.

Anshika 7/6/23   Sumit 7/6/23   07/06/23