One Day Workshop on "Exploring the World of Deep Learning " 29<sup>th</sup> Feb 2024



# Organized by Marathwada Mitramandal's Institute of Technology (MMIT), Lohgaon, Pune

Approved by AICTE and by DTE Maharashtra Affiliated to Savitribai Phule (SPPU), Pune NAAC "A" Accredited Institute

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Dr. S. G. Rathod

(Head of Department, Computer Engineering, MMIT, Lohgaon, Pune)

**COORDINATOR** 

Ms. Yamini P. Warke (yamini.warke@mmit.edu.in) Ms. Rohini D.Mahale (rohini.mahale@mmit.edu.in)

# **ORGANISING COMMITTEE**

Ms. Yamini P. Warke Ms. Rohini D.Mahale Assistant Professor, Computer Engineering,

MMIT, Lohgaon, Pune

## ABOUT MARTHWADA MITRA MANDAL

The trust "Marathwada Mitra Mandal, Pune" was established in 1967 by Hon. Late Shri. Shankarraoji Chavan, Former Home Minister, Govt. of India as the "Founder President". The trust had started its activity with the objective of providing hostel or similar accommodation in Pune to the students. This trust is established through the inspiration of socially and educationally charged personalities, with the motto "Yethe Bahutanche Hit" (Welfare of Masses). Mass education, co-education, and dedication towards overall development of the region are watchwords of the trust. At its various educational campuses, the trust has created excellent facilities of education catering to Architecture, Interior Design, Management, Law, Commerce, Pharmacy, Engineering, etc. Which provides excellent education to about 12,000+ students.

### **ABOUT MMIT**

MMIT, Lohgaon was established in 2008. The institution is affiliated to Savitribai Phule Pune University, Pune and is approved by AICTE, New Delhi, Recognized by DTE, Government of Maharashtra. The uniqueness of the institute lies in its provision for an elaborate spectrum of engineering program under one roof which emphasis on quality education, training, and building of cultural value and development of professional skills. The institute has a sprawling and lush green beautifully planned campus with modern state of art infrastructure and hostel facility in 15 acres of land. The institute is accredited with "A" Grade by NAAC. It offers five engineering programmes (Computer, Artificial Intelligence Science. 8 Data Mechanical. Civil. Mechatronics). It houses 800+ students and 80 staff members.

#### **ABOUT THE WORKSHOP**

Computer Engineering Department of Marathwada Mitra Mandal's Institute of Technology (MMIT) is organizing one day workshop on "Exploring the world of Deep Learning "on 29<sup>th</sup> Feb 2024

Exploring the World of Deep Learning" is an immersive workshop designed to introduce participants to the cutting-edge field of deep learning. Throughout the workshop, attendees will delve into the fundamental concepts, techniques, and applications of deep learning, gaining a comprehensive understanding of this rapidly evolving area of artificial intelligence. Through a combination of lectures, hands-on exercises, and real-world case studies, participants will acquire the skills and knowledge needed to embark on their own deep learning projects. Whether you're a beginner looking to dive into the world of AI or an experienced practitioner seeking to expand your expertise, this workshop offers an invaluable opportunity to explore the exciting possibilities of deep learning.

## **OBJECTIVES OF THE WORKSHOP**

- To Provide participants with a solid foundation in deep learning concepts, including neural networks, activation functions, and backpropagation.
- To Explore various deep learning architectures such as convolutional neural networks (CNNs), recurrent neural networks (RNNs), and generative adversarial networks (GANs)
- To Offer hands-on experience with popular deep learning frameworks such as TensorFlow or PyTorch, allowing participants to implement and train neural networks on real datasets.

#### **TOPICS COVERED**

- Understanding Deep Learning:
- Convolution Neural Network
- Recurrent Neural Network
- Machine language Process

# **RESOURCE PERSON**

#### Ms.Pallavi Kulkarni

IT Digital Analyst / Data Scientist

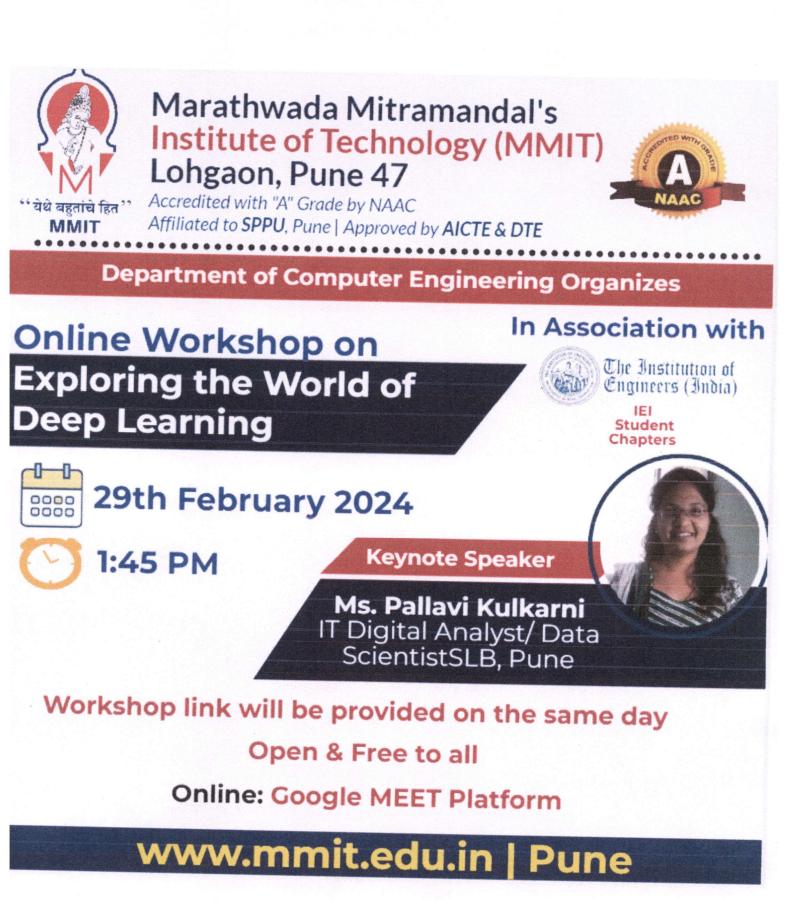
## **REGISTRATION FORM**

One Day Workshop On "Exploring the world of Deep Learning" (29<sup>th</sup> Feb 2024)

Class and Div :
Name of the Candidate:
Roll No :
Email Id:

## **Registration Link:**

https://forms.gle/KjBeECif2jn8Lf2UA





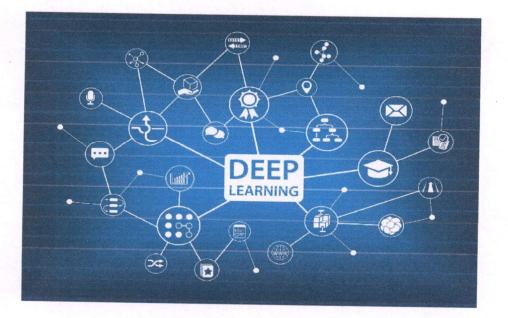
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# One day workshop on

# "Exploring the world of DEEP LEARNING"

29th February 2024



# **Organized By**



# **Department of Computer Engineering**

# Marathwada Mitra Mandal's Institute of Technology, Lohgaon, Pune

Approved by **AICTE** New Delhi, Recognized by **DTE** Maharashtra & Affiliated to Savitribai Phule Pune NAAC "A" Accredited Institute



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# Patron

Dr. R. V. Bhortake Principal, MMIT, Lohgaon, Pune

## Convenor

Dr. Subhash Rathod Head of Department, Computer Engineering, MMIT, Lohgaon, Pune

# **Coordinator**

Ms. Yamini P. Warke

# Ms. Rohini D. Mahale

Assistant Professor, Computer Engineering, MMIT, Lohgaon, Pune

# Speakers

Ms.Pallavi Kulkarni IT Digital Analyst / Data Scientist



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#### Notice: "Exploring the world of DEEP LEARNING"

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"Towards Ubiquitous Computing Technology"

# DEPARTMENT OF COMPUTER ENGINEERING

Date: 12/02/2024

#### NOTICE

All the students of TE(Comp) and BE(Comp), are hereby informed that the Computer Engineering Department is organizing a 2-hour Workshop on "Exploring the world of deep learning" which is arranged on Thursday 29-2-2024, at 1.45PM to 3.45 PM, interested students can register for this Workshop. Registration link: - https://forms.gle/xwRWNUVRTPj4LAZ27

Details: Online Platform: -Google Meet

Course Coordinator Ms. Yamini P. Warke The Ms. Rohini D. Mahale Provide

alerh

Dr. S. G. Rathod



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# Department of Computer Engineering (Academic Year 2023-24)

Date: 04/03/2024

# "Exploring the world of DEEP LEARNING"

The Institutions of Engineers (IEI) organized Workshop on "Exploring the world of DEEP LEARNING" on 29<sup>th</sup> Feb 2024 at MMIT, Lohgaon, Pune. IEI hosted a session for students of computer departments to build awareness about Deep Learning. The workshop starts by highlighting the relationship between deep learning, machine learning, and artificial intelligence and helps students to get comfortable with the TensorFlow. Student also got knowledge about neural networks, the structure of a perceptron, and how to use TensorFlow to create and train models.

#### Introduction:

Deep learning is a subset of machine learning. In supervised learning, we often use traditional machine learning techniques, such as support vector machines or tree-based models, where features are explicitly engineered by humans. However, in deep learning, the model explores and identifies the important features of a labeled dataset without human intervention. ANNs, inspired by biological neurons, have a layered representation, which helps them learn labels incrementally—from the minute details to the complex ones

# Following topics are covered in the seminar

- Understanding Deep Learning:
- Convolution Neural Network
- Recurrent Neural Network
- Machine language Process

Understanding Deep Learning: Deep learning is a subset of machine learning that utilizes neural networks with multiple layers to progressively extract higher-level features from raw input. Understanding the basics of neural networks, such as feed forward networks, back propagation, activation functions, and gradient descent, is essential.

**Neural Network Architectures**: There are various architectures in deep learning, each suited for different tasks. Convolutional Neural Networks (CNNs) excel in image recognition and computer vision tasks, Recurrent Neural Networks (RNNs) are used for sequential data like time series and natural language processing, and Transformer models have gained popularity for tasks involving sequential data due to their attention mechanism.



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**Frameworks and Libraries**: TensorFlow and PyTorch are two of the most popular deep learning frameworks, offering high-level APIs that simplify the implementation of neural networks. Other frameworks like Keras (which can run on top of TensorFlow), MXNet, and Caffe are also widely used.

**Data Preprocessing**: Preprocessing data is crucial in deep learning tasks. Techniques like normalization, data augmentation, and feature scaling help improve the performance of neural networks and prevent overfitting.

Training Models: Training deep learning models often requires large amounts of data and computational resources. Understanding techniques for optimizing training, such as batch normalization, dropout, and learning rate schedules, is essential for achieving good performance.

**Transfer Learning**: Transfer learning is a technique where a pre-trained model is finetuned on a new dataset for a different task. This approach can significantly reduce the amount of labeled data required for training and accelerate the development process.

**Applications:** Deep learning has applications in various fields, including computer vision, natural language processing, speech recognition, healthcare, finance, and autonomous vehicles. Understanding how deep learning is used in real-world scenarios can provide insights into its capabilities and limitations.

**Ethical Considerations**: As with any technology, there are ethical considerations surrounding deep learning, such as bias in algorithms, privacy concerns, and the potential for job displacement. Exploring these issues is crucial for developing responsible AI systems.

**Continuous Learning**: The field of deep learning is rapidly evolving, with new architectures, techniques, and applications emerging regularly. Engaging in continuous learning through online courses, research papers, and conferences is essential for staying updated with the latest developments.

The details of Workshop are as follows:

Time: 01.45 PM.

Date: 29th February 2024

Mode: Online Mode (https://meet.google.com/idi-ribw-hyi?hs=224)

**Resource Person: Ms.Pallavi Kulkarni** 

IT Analyst/ Data Scientist SBL, Pune.



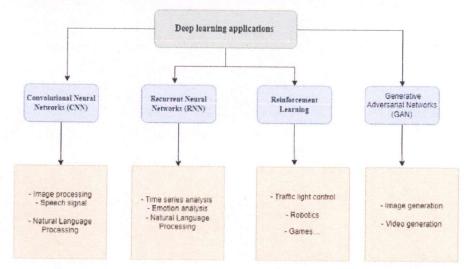
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## About Program:

#### **Objective:**

One objective of exploring the world of deep learning is to develop practical skills in implementing and training deep neural networks. This objective focuses on gaining hands-on experience with deep learning frameworks, such as Tensor Flow or PyTorch, and understanding how to build, train, and evaluate neural network models for various tasks. By achieving this objective, individuals can become proficient in applying deep learning techniques to solve real-world problems in fields like computer vision, natural language processing, and reinforcement learning. This practical skill development is crucial for advancing careers in artificial intelligence, machine learning, and data science, as well as for contributing to research and innovation in the field of deep learning.



#### **Activities performed:**

In the session, the speaker shared information about basics of Deep learning applications, and real time scenario. Also given some insights on implementation of that scenario.

Total Duration of session is 2.00 hrs.



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Total Participants: 38 Students & 03 Faculties.

It was an interactive session where students' doubts were solved by the speaker.

#### **Outcome:**

Overall, the outcome of exploring the world of deep learning is a combination of theoretical understanding, practical skills development, problem-solving abilities, career advancement opportunities, and contributions to research and innovation, all while considering ethical considerations in the application of deep learning technologies.

# List of students participated:

	Attendar	nce of Wo	rkshop
Class and		Roll	
Div.	Name of the candidate	no.	Email id
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BE-A	Abhishek Sanjay Jadhav	BEA44	abhishekjadhav10000@gmail.com
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E-B	Dipanjali Bhujbal	TEB13	
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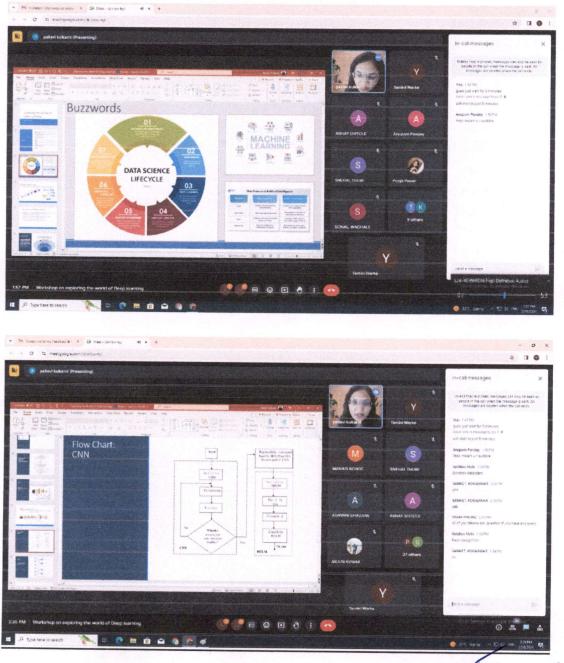
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# Glimpses of the Session:



Dr. S. G. Rathod

**Head of Department** 

# Feedback on Workshop "Exploring the world of Deep Learning"

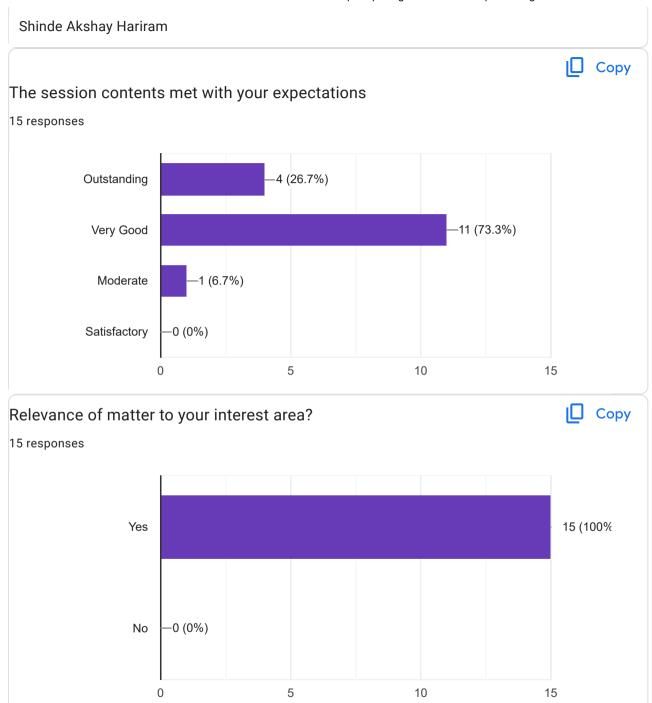
15 responses

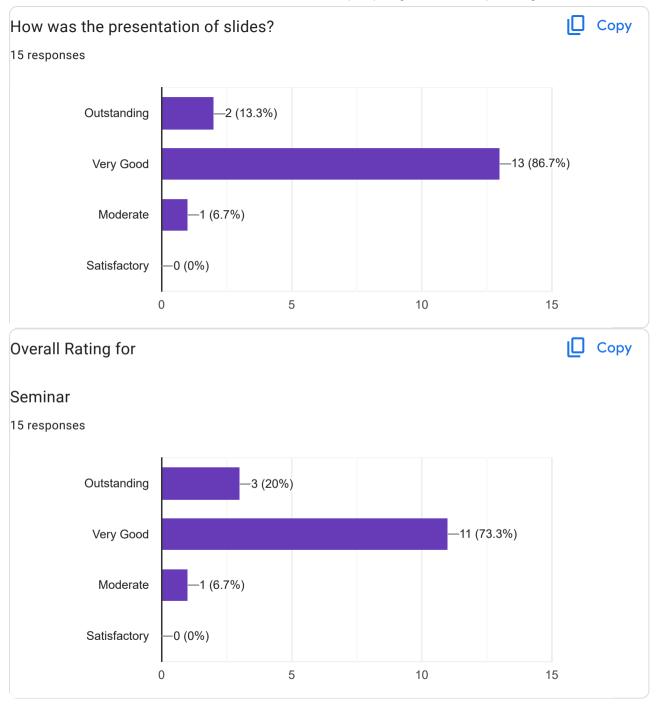
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Name of the Participant
15 responses
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Ms.Rohini Mahale
Vaibhav Mule
Aishwarya Anil Sawant
Wagh Nikita Kailas
Om Narayan Tachtode
Rushikesh Bhalerao
Thakarke Gajanan Kamlakar
Pranay Bhaurao Rathod
Sakshi Hule
Tirthesh Mahajan
Kokadwar Sanket Dhananjay
Anupam Pandey
yash bambal





Any other suggestion
8 responses
ΝΑ
no
No

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