



**Dr. Mahalingam College of Engineering and Technology**  
**Office of Dean Research & Innovation**  
and  
**Department of Information Technology**  
**(Artificial Intelligence and Machine Learning)**  
**Research Interest Group**

**Knowledge sharing session**  
**Report on “Research Trends using Deep Learning”**

**Date: 24.03.2025**

**About the Session:**

S.No.	Name of the Resource Person	Topic	Date & Time	Venue	No of Participants
1.	Dr. Venkatesan M, Associate Professor, Department of Computer Science and Engineering, NIT, Puducherry, Karaikal.	Research Trends using Deep Learning	14.03.2025 2.00pm to 4.30pm	Cloud Computing Lab-A518	36

**Objectives:**

- Gain Insight into Emerging Computer Vision and Deep Learning Technologies.
- Examine and Implement Cutting-Edge Models.
- Investigate the Integration of Deep Learning with Other Technologies.

**Topics Covered:**

- Overview of Machine Learning and Deep Learning.
- Highlight the significance of dataset availability in facilitating informed decision-making for selecting the appropriate domain and defining a problem statement in the research process.
- Described the various tools and its characteristics for handling data.
- Discussed the supervised learning algorithms -, Support Vector Machines (SVM) under classification and K-Nearest Neighbors (KNN) under clustering.
- Sequence Modelling with RNNs and LSTMs and Generative Adversarial Networks (GANs)
- Finally, several application problem statements were discussed, along with his published papers in reputed journals.

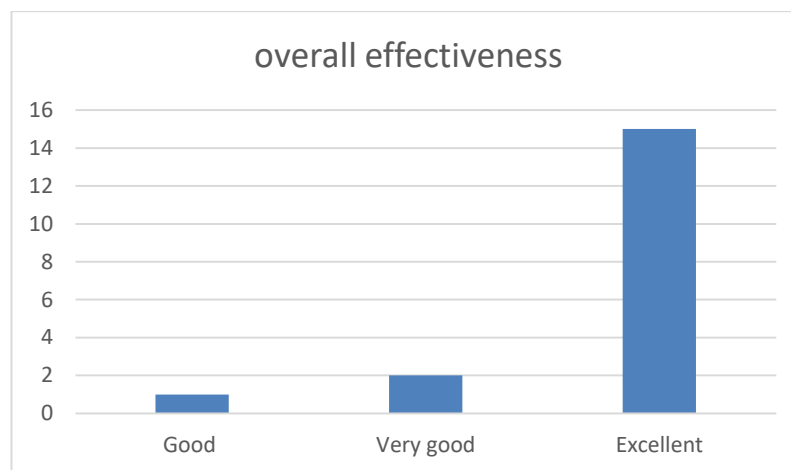
## Feedback:

### What topics would you like to be included in FDPs

- ✓ Searchable Encryption
- ✓ Generative AI
- ✓ CNN implementation
- ✓ Prompt Engineering
- ✓ LLM's
- ✓ optimization in deep learning
- ✓ Image processing
- ✓ Research trends in DL
- ✓ Python Scripting

### How would you rate the overall effectiveness of the FDP

(1 - Poor,2 - Fair,3 - Good,4 - Very Good,5 - Excellent)



### Any additional comments or suggestions for improvement in future FDP

- ✓ Everything is going well
- ✓ Very informative
- ✓ Good

### Q & A Session/Interaction:

- Regarding the Model Optimization and hyper parameter tuning in ML algorithms.
- Practical exercises in text generation, sentiment analysis, and sequence prediction using recurrent neural networks.
- Implementation of GANs for data augmentation and synthetic image generation.
- Hands-on session on using Altair AI Studio for building, training, and deploying deep learning models with minimal coding effort, focusing on automated machine learning (AutoML) and its applications.

## Outcomes:

- Enhanced Understanding of AI & ML, Image processing and DL Concepts.
- Learnt Altair AI Studio tool for implementing ML & DL algorithms, to process the data and prediction of results.
- Contributed ideas and insights for writing a journal paper.
- Provided insights on various AI tools for building deep learning models.
- Provided inputs on feed forward neural network, Gradient Decent and Stochastic Gradient Descent function and ADAM Optimizer function.
- Understand how to read images using the MNIST dataset.

## Photos taken during the Session:





**Makinampatti, Tamil Nadu, India**

M24p+fg8, Annamalai Nagar, Makinampatti, Tamil Nadu 642001, India

Lat 10.655763° Long 77.036185°  
14/03/2025 02:26 PM GMT +05:30

*S. Prakash*

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**Vice-Principal**

*[Signature]*

**Principal**

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Joint-Secretary**

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Secretary**