



**NITTTR
BHOPAL**

EEE-11/2024-2025

Artificial Neural Network using MATLAB

04-11-2024 to 08-11-2024

NITTTR Bhopal



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Rationale

The course covers Artificial Neural Network (ANN) to handle uncertainty and imprecision of the system. The need for ANN arises from the limitations of traditional, classical computing methods in solving real-world problems. ANN is a branch of artificial intelligence that provides approximate solutions to complex problems that are difficult or impossible to solve using classical methods. ANN includes the concepts of back-propagation learning scheme, training and testing of neural network. Modelling, simulation and analysis of neural network is emphasized for a given application

Programme Outcomes

1. Compare between biological neuron and artificial neuron
2. Develop learning algorithms for machine learning
3. Build Neural Networks using building blocks of simulation software
4. Develop neural network models
5. Design and develop applications using neural networks

Programme Content

Overview of Artificial Neural Network, Introduction to Artificial Neural Network (ANN), Introduction to Python, Installing Python, The McCulloch-Pitts Model of Neuron, Support Vector Machines and their Applications, Kohonen's Self-Organizing Maps, Perceptron: Structure, Training, and Applications as a Classifier, Multilayer Perceptron and the Backpropagation Training Algorithm, Unsupervised Learning in Neural Networks: Learning Vector Quantizers, Introduction to Deep, Neural Networks For Control, Training a neural network, Testing of a neural network

Target Group

Faculty of Electronics Engineering & Computer disciplines

Coordinator & Co-Faculty

Dr. K. Manickavasagam

Professor

Department of Electrical and Electronics Engineering Education

kmanickavasagam@nitttrbpl.ac.in

Expert



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National Institute of Technical Teachers' Training and Research (NITTTR)
(Deemed to be university under distinct category), Ministry of Education, Government of India,
Shamla Hills, Shanti Marg, Bhopal-462002 (M.P.)

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