



Module PMRF-ISSS0##

## Practical implementation of deep neural networks and transfer learning concept

### Name of the PMRF student

Anjali Dixit

### Required background of the students taught

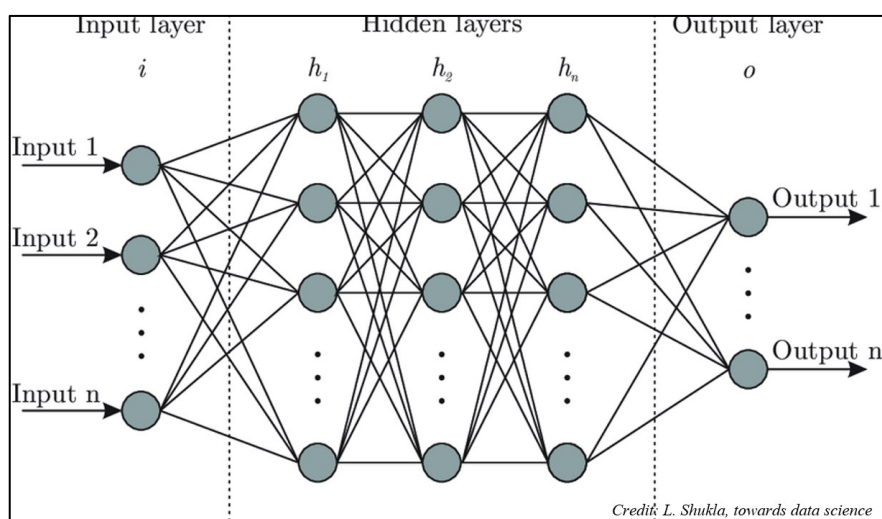
Students with engineering and sciences background

### Online session coordinator

Will be chosen from the list of registrants

### Course description

The presented course will provide the insight and understanding to the participants about deep neural networks. Further, how we can anticipate the requirement of large training dataset to effectively implement these models into sciences and engineering problems having limited training data.



### Schedule of the module

Course start data: 21- 09-2023

Course end data: 23-11-2023

Total duration of course: 10 weeks (20 hrs.)

Lecture duration: 2hr./week (every Thursday)

Timings: 6:30 PM – 8:30 PM IST

### Details of the content of the module

#### Lecture-wise course syllabus

Lecture 1: Basics of neural networks (NNs)

Lecture 2: Mathematics behind the NN models

Lecture 3: Introduction and Installation of python libraries

Lecture 4: Hands on python libraries and creating an environment in Anaconda

Lecture 5: Preparing input training data for NN models using different data format files

Lecture 6: Hands-on exercise on multi-layer perceptron artificial neural network model using healthcare data under Keras platform

Lecture 7: Building a convolution neural network (CNN) for image classification using MNIST dataset under Pytorch platform

Lecture 8: Introduction to Transfer learning

Lecture 9: Overview of available pre-trained models for image classification

Lecture 10: hands-on implementation of transfer learning concept

#### Nature of teaching – online lectures

Meeting link : Will be shared later

[Link](#)

Contact email ID: [iss.s.forum@gmail.com](mailto:iss.s.forum@gmail.com)

Registration link:

[https://docs.google.com/forms/d/e/1FAIpQLScVHJkGTY9dpkS8ZC\\_KfIMX89GL15zq0lnX-IJPWToyGW78PA/viewform?usp=pp\\_url](https://docs.google.com/forms/d/e/1FAIpQLScVHJkGTY9dpkS8ZC_KfIMX89GL15zq0lnX-IJPWToyGW78PA/viewform?usp=pp_url)