

## PMRF-ISSS Teaching Programme

Prime Minister Research Fellowship students' teaching requirement facilitated by the Institute of Smart Structures and Systems



Module PMRF-ISSS056/II/2024

# Deep Learning for Computer Vision

Name of the PMRF student Nishanth Shetty

### Required background of the students taught

Knowledge of Python (with OOP), a basic course in machine learning.

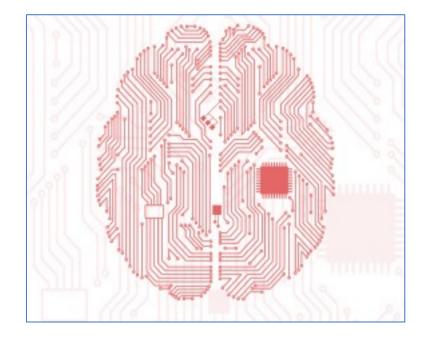


Image Courtesy: <a href="https://tinyurl.com/pydlcv">https://tinyurl.com/pydlcv</a>

#### Details of the content of the module

Live Lectures (Online):

Introduction to Deep Learning, optimization, linear classifiers, neural networks, back-propagation, convolutional neural networks and related architectures, training neural networks, hardware and software aspects of training, pre-training and augmentations, visualizing and understanding deep representations of images, object detection, semantic segmentation, sequence modelling — recurrent neural networks, transformers and attention.

Live Lab Sessions (Online):

PyTorch 101, k-nearest neighbour classifier, linear Classifiers, 2 layer Neural Network, MNIST Challenge, Fully Connected Neural Networks and CNNs, Object Detection.

#### Schedule of the module

Start: 25th March, 2024

End: 31<sup>st</sup> May, 2024

Lectures on Monday and Friday (1 hour -- 11:00 a.m.

to 1200 p.m.)

Total: 24 hours (16 hours of lectures + 8 hours of lab)

Meeting link: Will be shared later

Link

Contact email ID: <u>isss.forum@gmail.com</u>

Registration link:

https://forms.gle/kLhnQujDFdeWAjR48

