PMRF-ISSS Teaching Programme

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

Module PMRF-ISSS020/III/2025
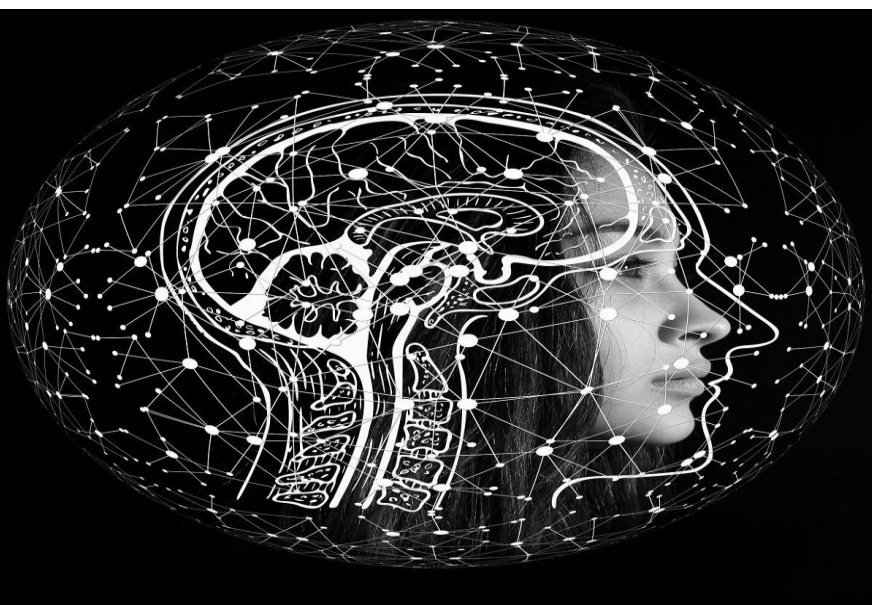# Score-based Generative Modelling

Name of the PMRF student

Piyush Lalitkumar Tiwary

Required background of the students taught

Basic Undergraduate level Probability Theory and High School level Calculus

Details of the content of the module

1. Basics of Sampling Methods, Sampling from desired distribution.

2. Markov Chain Monte Carlo Methods (MCMC)

3. Energy-based Models, Contrastive-divergence

4. Score-based Models

   o   Implicit Score Matching

   o   Denoising Score Matching

   o   Sliced Score Matching

5. Noise Conditioned Score Networks (NCSN)

6. Stochastic Differential Equations (SDEs)

7. General Framework for Score-based Modelling

Schedule of the module

Lectures will start from 23rd March and will go on till 23rd May.

Lectures will be held online on Tuesdays and Thursdays at 11AM.

Meeting link : Will be shared later

Contact email ID: isss.forum@gmail.com

Registration link:

https://forms.gle/6DwMVc5xZT8QSh7m9