

PMRF-ISSS Teaching Programme

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



Module PMRF-ISSS116/II/2024 Topics in Stochastic Approximation algorithms

Name of the PMRF student

Vamshi Kumar Kurva

Required background of the students taught

EC, EE, CS

Online session coordinator

Will be chosen from the list of registrants

Details of the content of the module

- 1. Introduction to stochastic approximation
- 2. Ordinary differential equation-based convergence analysis
- 3. Stability of iterates
- 4. Multi-timescale stochastic approximation
- 5. Asynchronous update algorithms
- 6. Grid search-based techniques
- 7. Topics in stochastic control
- 8. Infinite horizon discounted and long run average cost criterion
- 9. Reinforcement learning algorithms

Schedule of the module

Start date: 7th August 2024

Class time: Wednesday, Friday 6.00-7:30pm

Last date: 26th October 2024 (Tentative)

Number of hours: 30

Meeting link: Will be shared later

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

Registration link: <u>url</u>