# PMRF-ISSS Teaching Programme

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

Module PMRF-ISSS133/III/2024

# Foundations of Artificial Intelligence Using Python

## Name of the PMRF student

### Shubham Keshri

## Required background of the students taught

Bachelors, Masters or Ph.D. students, Faculty or Working Professionals in any field of science and engineering, interested in Artificial Intelligence.

**Prerequisites:** Basic Knowledge of Python Programming and Probability Theory



## Details of the content of the module

**Graph Search Algorithms**: Explore BFS, DFS, and A* for problem-solving in AI.

**Adversarial Search**: Learn strategies for AI in competitive environments.

**Knowledge Representation & Logical Inference**: Understand how AI systems represent and reason with information.

**Probability & Bayesian Networks**: Manage uncertainty in AI with probabilistic models.

**Markov Models**: Study systems that transition between states.

**Constraint Satisfaction**: Solve problems with optimization techniques.

**Machine Learning**: Build systems that learn from data.

**Reinforcement Learning**: Implement decision-making algorithms.

**Neural Networks**: Understand the basics of deep learning.

**Natural Language Processing (NLP)**: Work with AI applications in language understanding.

## Schedule of the module

Start date: 29/09/2024
End date: 29/12/2024

Timings: Sunday, 6 – 8 PM. (2 hrs/week) Class Timing and Timeline is Tentative and may change if required.

Last date of registration: 29/09/2024

Meeting link : Will be shared later

Contact email ID:  isss.forum@gmail.com,

keshri20@iitk.ac.in

Registration link:
https://forms.gle/APCZ8NB1itKz6w599