International Summer School -Manipal University Jaipur [ISSMUJ]-2024

[Hybrid Mode]

Course Overview

Name of Course- Edge AI Experience: From Concept to Deployment

Name of Instructor: Dr Shambo Roy Chowdhury

Session: June-July 2024

Language of instruction: English

Number of contact hours: 36

Credit awarded: 03

Pre-requisite: *(write NA if no pre-requisite required)*

Fundamentals of Machine learning and basic electronics

Objective of Course/Project

The course covers the essential concepts, hands-on exercises, and practical applications of Edge AI, taking participants through the journey from understanding the fundamentals to deploying real-world Edge AI solutions.

Syllabus:

Week 1: Introduction to Edge AI and Basics of Edge computing

Week 2: Edge AI Hardware and Edge AI Frameworks

Week 3: Deployment of Edge AI

Organization of Course

Total contact Hours: 36		
1st week:	4 hrs (classes)	4 hrs (self-study/project)
2nd week:	2 hrs (classes)	10 hrs (Mid-term assessment)

3rd week:	2 hrs (classes)	10 hrs (self-study/project)
4th week:	2 hr (Classes)	2 hrs (End term Assesment)

Mode of lectures: Hybrid mode lecture/videos/case study/ discussion/ workshop/ hands-on

Course/Project Plan

Lecture no.	Topic	Lecture mode	Instructor
L: 1-4	Overview, Importance and Application of Edge Computing and AI	Online	Dr Shambo Roy Chowdhury
L: 5-8	Practical session	Online	Dr Shambo Roy Chowdhury
L: 9-10	Basic hardware for edge computing	Online	Dr Shambo Roy Chowdhury
L: 11-20	Practical session on hardware and Framework	Online	Dr Shambo Roy Chowdhury
L: 21-22	Deployment of AI	Online	Dr Shambo Roy Chowdhury
L:23-32	Practical session on Deployment of AI	Online	Dr Shambo Roy Chowdhury
L:33-34	Application of EDGE AI	Online	Dr Shambo Roy Chowdhury
L: 35-36	Final Assessment	Online	Dr Shambo Roy Chowdhury

Brief profile of the instructor with Photograph

I am a passionate researcher and educator with a Ph.D. in Computer Science specializing in edge computing, robotics, and the Internet of Things (IoT). With over 6 years of teaching experience, I have developed and delivered courses in edge computing and robotics, fostering a hands-on learning environment for students. My research interests lie at the intersection of edge AI, distributed systems, and autonomous technologies, where I strive to advance the capabilities of intelligent systems for real-world applications. With a strong foundation in programming languages and expertise in edge computing frameworks and hardware platforms, I am dedicated to pushing the boundaries of innovation in the field of IoT, robotics and EDGE computing.