Centre for Machine Learning and Intelligence
Virtual Reality
Professional Certificate Course-Applicable for Post Graduate students
From the Academic year 2024-2025 onwards

Course Objectives: *Duration :40 Hours*

1. To learn the basic principles of virtual reality
2. To understand the different forms of Augmented Reality and Applications
3. To explore gaming engine concepts in various technologies.

Unit 1: Introduction to Unity (10 hours)

Introduction to Games and XR, Introduction to Unity, Technical requirements, Unity Versions and Unity Hub, Unity project and Project structure, Materials & Shaders, Physics Components, Camera & Lights, Animations, Import & Exporting the assets and packages, Prefabs and parenting, Textures and Models.

Unit 2: Unity Scripting (10 hours)

Introduction to C#. Variables, functions & writing functions - Unity datatypes, classes, arrays & coroutines - Conventions & Syntax - Scope & Access modifiers - If statements & Loops - Methods & parameter - Basic C# programs, Events & Instructions. Spawning objects, Timing actions, Input system, Score system, Reward system, collision system, Ray casting, Navigation system, Physics system, Win or Lose systems, Creating gameplay & other experiences.

Unit 3: VR Design in Unity (10 hours)

Introduction to XR & VR, Virtual reality principles and application, impact, technical requirements, Preparing the project, creating lights, rendering VR, Implementing Controllers and XR interaction system, installing libraries, Oculus setup, Testing VR environment, Sound and OpenXR libraries

Unit 4: VR Design in Oculus (10 hours)

Oculus setup, creating object pool, Instancing object pools, Create AI prefabs, implement navigation, Implement Damage systems, adding effects and particle, Deploying in VR, Build and Testing

Course Outcomes:

1. Develop the skills needed to create interactions with 3D elements.
2. Obtain Knowledge to demonstrate industry-oriented VR Applications.

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Training Provided by : Scopik Edutech Ltd., Chennai
 Certifying Body      : Scopik Edutech Ltd., Chennai
Exam mode             : Online
Course Hours          : 40
Course Fee            :  Rs.4000
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