UNIT – V
AUGMENTED REALITY

Introduction to Augmented Reality-Computer vision for AR-Interaction-Modelling and Annotation-
Navigation-Wearable devices.

5.1) **AUGMENTED REALITY**

INTRODUCTION TO AUGMENTED REALITY (AR):

Augmented Reality (AR) is a technology that overlays digital information, such as images, videos,

or 3D models, onto the real-world environment. Unlike Virtual Reality (VR), which immerses

users in a completely virtual environment, AR enhances the real world by adding digital elements.

AR is experienced through devices like smartphones, tablets, smart glasses, and other wearable

technologies.

COMPUTER VISION FOR AR:

Computer vision is a key component of AR systems, enabling them to understand and interpret the

real-world environment. The main tasks of computer vision in AR include:

1. Image Recognition:

AR systems use image recognition algorithms to identify and

track objects or markers in the

real world. These markers act as triggers for displaying digital content.

2. Object Tracking:

Computer vision helps AR devices track the movement of objects in the real world. This is

crucial for maintaining the alignment of digital content with the physical environment.

3. Scene Understanding:

AR systems analyze the scene through computer vision to understand the geometry, depth, andstructure of the environment. This information is used to place virtual objects realistically in the

real world.

4. Gesture Recognition:Computer vision is applied to recognize gestures and movements made by users. This allows for interactive control of AR applications without physical touch.