J.B. INSTITUTE OF ENGINEERING AND TECHNOLOGY
(UGC AUTONOMOUS)
(Accredited by NBA&NAAC, Approved by AICTE & Permanently Affiliated to JNTUH Hyderabad)

Yenkapally (Vi), Moinabad (M). P.O. Himayat Nagar, RR District, Hyderabad 500075

Department of Electronics and Computer Engineering

Value-Added Course on Computer Vision Report

Module Number: 04

Key Topics Covered:
Edge Detection and Thresholding, Canny, Sobel, adaptive thresholding

Resource Person(s): Mrs. Anusha Manda and Mr. Bheemana Bhuvan

Date and Time of Session: 30.10.2025 and 10.00AM to 1.00PM

Duration: 3 hours

**Mode of Delivery:** Face to Face Lecture Delivery

Target Audience: 2nd, 3rd and 4th year students

Number of Participants: 45

Venue: A403 Classroom

Objectives of the Course Module:

- Introduce the fundamental concepts of **edge detection** and **thresholding** in digital image processing.

- Demonstrating the working principles of the **Sobel** and **Canny** edge detection algorithms.

- Enable students to implement and compare various edge detection and thresholding methods using practical examples.
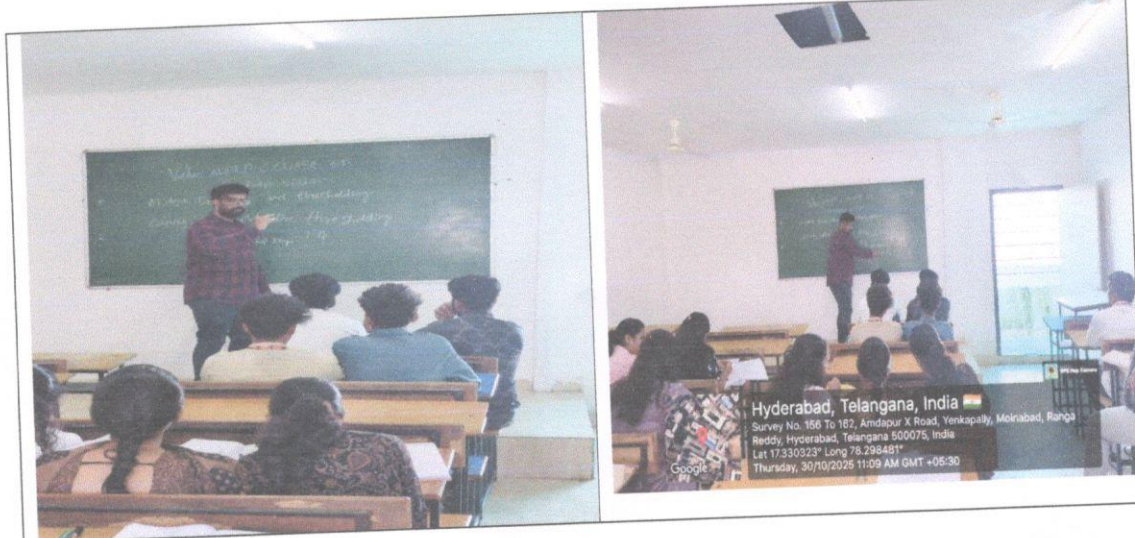
Session conducted on a Value-Added Course on Computer Vision for 2nd, 3rd and 4th year students of ECM on 30.10.2025

Expected Learning Outcomes of the Module : 4

By the end of the module, students could:

- Understand the theoretical foundation of edge detection and its role in identifying object boundaries in images

- Apply **Sobel** and **Canny** operators to detect edges effectively in images with varying contrast and noise levels

- Differentiate between **global** and **adaptive thresholding** techniques and choose appropriate methods for different image conditions

Summary:

Students appreciated the practical, project-based learning approach; clear explanations with industry relevance and real-time demonstrations and coding practice

30/10/2025

Head of the Department
Signature of the HoD-ECM
Dept. of ECM
J.B Institute of Engineering & Technol-
Bhaskar Nagar, Yenkapally (V)
Moinabad (M), R.R. Dist.- 500 075