

**1** LEARN **2** CERTIFY

**3** ENGAGE **4** COMPETE

**COMPUTER VISION**

# Computer Vision Applications



# COURSE OUTLINE

Module 01 | Introduction to Computer Vision

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Module 02 | Image Processing Fundamentals

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Module 03 | Practical Implementation

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Module 04 | Object Detection and Recognition

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Module 05 | Image Segmentation

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Module 06 | 3D Vision and Depth Estimation

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Module 07 | Advanced Topics in Computer Vision

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Module 08 | Practical Projects and Case Studies

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Module 09 | Final Project

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Module

01

1<sup>st</sup>  
MONTH

# Introduction to Computer Vision

- Overview of Computer Vision
- Basics of Image Formation



# Image Processing Fundamentals

- Image Preprocessing
- Image Transformation
- Practical Implementation

# Feature Detection and Matching

- Edge Detection and Feature Extraction
- Feature Matching
- Practical Implementation

# Object Detection and Recognition

- Classical Object Detection
- Modern Object Detection
- Practical Implementation



# Image Segmentation

- Segmentation Techniques
- Semantic and Instance Segmentation
- Practical Implementation

# Module 06

2<sup>nd</sup> MONTH

## 3D Vision and Depth Estimation

- Stereo Vision and Depth Estimation
- 3D Reconstruction
- Practical Implementation

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6444	46466	454666	644	5464	445	443	4544
45465	4432113	4313	43131	43131	4131	4131	69

# Advanced Topics in Computer Vision

- Optical Flow and Motion Analysis
- Generative Models and Image Synthesis
- Practical Implementation



# Practical Projects and Case Studies

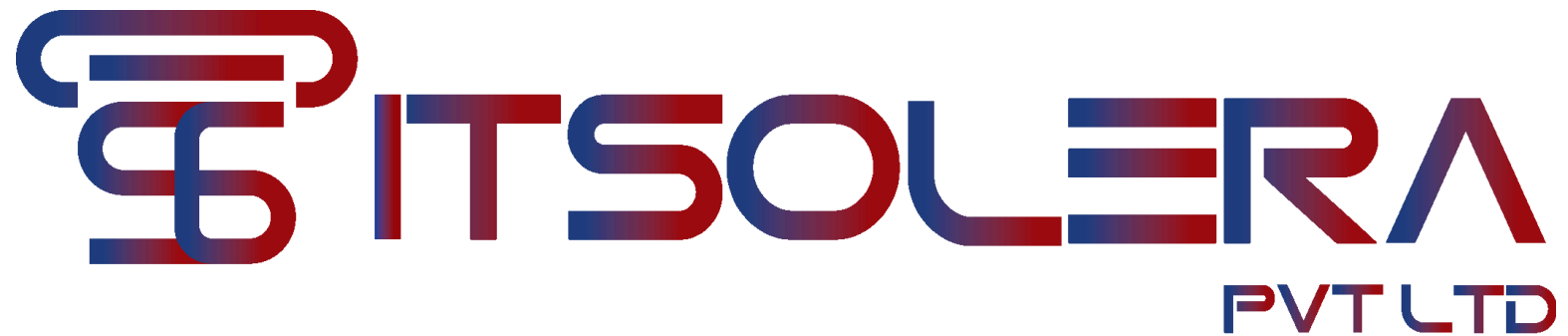
- Project Planning and Dataset Preparation
- Model Building and Training
- Deployment and Production



# Module 09

## Final Project

- Project Proposal
- Implementation
- Evaluation and Presentation



**COMPUTER VISION,  
THE EYES OF THE FUTURE.**

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