

1. What is the primary difference between regression and classification tasks in machine learning as applied to computer vision?

- A. Classification outputs continuous values
- B. Regression outputs continuous values
- C. Regression outputs discrete class labels
- D. Classification requires manual feature definition

2. In the context of feature detection, what is a significant challenge that affects the accuracy of identifying objects in images?

- A. The number of color channels in an image
- B. The size of the image
- C. Variations in scale, orientation, lighting, and occlusions
- D. The resolution of the image

3. How are color images represented in numerical form for processing in deep learning?

- A. As 1D arrays
- B. As 3D arrays with RGB channels
- C. As 2D arrays
- D. As binary data

4. What is the primary function of the early layers in a Convolutional Neural Network (CNN)?

- A. Detect simple features like edges
- B. Detect complex hierarchical features
- C. Classify every pixel in an image
- D. Predict continuous control signals

5. In the context of object detection using CNNs, what is the advantage of using Region Proposal Networks (R-CNN) over the naive sliding window approach?

- A. It learns to propose regions and classify them end-to-end
- B. It classifies each box independently
- C. It requires less computational power
- D. It simplifies the feature extraction process