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Course management ⚙

202210369 صالح صالح انيس محمد تميم _DS&AI
ت2

Started on	Thursday, 19 June 2025, 1:54 PM
State	Finished
Completed on	Thursday, 19 June 2025, 2:20 PM
Time taken	25 mins 46 secs
Grade	**19.00** out of 40.00 (**47.5%**)

Question 1

Incorrect

Mark 0.00 out of 1.00

Within the Faster R-CNN pipeline, deduce why anchors of multiple aspect ratios are crucial.

- ○ a. They allow pixel-wise supervision of all background areas
- ● b. They reduce training time significantly ✗
- ○ c. They provide rotation invariance to the network
- ○ d. They increase robustness to varying object shapes and scales

The correct answer is: They increase robustness to varying object shapes and scales

Response history

Step	Time	Action	State	Marks
1	19/06/25, 13:54:21	Started	Not yet answered	
2	19/06/25, 13:56:05	Saved: They reduce training time significantly	Answer saved	
3	**19/06/25, 14:20:07**	**Attempt finished**	**Incorrect**	**0.00**

Question **2**

Incorrect

Mark 0.00 out of 1.00

Reveal the main reason for applying geometric verification after matching feature descriptors.

- ○ a. To convert grayscale images to RGB
- ○ b. To remove false matches using spatial constraints
- ○ c. To count detected objects per frame
- ● d. To visualize matches with bounding boxes ✕

The correct answer is: To remove false matches using spatial constraints

Response history

Step	Time	Action	State	Marks
1	19/06/25, 13:54:21	Started	Not yet answered	
2	19/06/25, 13:56:05	Saved: To visualize matches with bounding boxes	Answer saved	
3	**19/06/25, 14:20:07**	**Attempt finished**	**Incorrect**	**0.00**

Question **3**

Incorrect

Mark 0.00 out of
1.00

Explain how Mask R-CNN achieves class-specific segmentation without competition.

- ○ a.   Each RoI has separate mask outputs for each class, avoiding softmax
- ● b.   A single mask branch generates multiple masks with shared weights ✗
- ○ c.   The mask prediction is post-processed using CRF to isolate classes
- ○ d.   Each class is represented by its own color code in the output

The correct answer is: Each RoI has separate mask outputs for each class, avoiding softmax

Response history

Step	Time	Action	State	Marks
1	19/06/25, 13:54:21	Started	Not yet answered	
2	19/06/25, 13:56:05	Saved: Each RoI has separate mask outputs for each class, avoiding softmax	Answer saved	
3	19/06/25, 14:07:40	Saved: A single mask branch generates multiple masks with shared weights	Answer saved	
4	**19/06/25, 14:20:07**	**Attempt finished**	**Incorrect**	**0.00**

Question 4

Correct

Mark 1.00 out of 1.00

Hide sidebars

Explain the benefit of RoI Pooling in Fast R-CNN.

- ○ a.   Extract fixed-size feature vectors from proposals ✓
- ○ b.   Generate anchors
- ○ c.   Resize input images
- ○ d.   Normalize feature maps

The correct answer is: Extract fixed-size feature vectors from proposals

Response history

Step	Time	Action	State	Marks
1	19/06/25, 13:54:21	Started	Not yet answered	
2	19/06/25, 13:57:36	Saved: Extract fixed-size feature vectors from proposals	Answer saved	
3	**19/06/25, 14:20:07**	**Attempt finished**	**Correct**	**1.00**

Question 5

Incorrect

Mark 0.00 out of 1.00

Recognize the advantage of using pre-trained Haar cascades in OpenCV.

- a. Easily deployable for standard detection tasks
- b. Detects identity of objects ✗
- c. Provides pixel-level segmentation masks
- d. Requires large GPU memory

The correct answer is: Easily deployable for standard detection tasks

Response history

Step	Time	Action	State	Marks
1	19/06/25, 13:54:21	Started	Not yet answered	
2	19/06/25, 13:57:36	Saved: Detects identity of objects	Answer saved	
3	**19/06/25, 14:20:07**	**Attempt finished**	**Incorrect**	**0.00**

Question 6

Incorrect

Mark 0.00 out of 1.00

During training of Mask R-CNN, identify the role of the K-class mask prediction per RoI.

- ○ a.   It allows mask generation to be decoupled from class competition
- ◉ b.   It forces binary segmentation for all background objects ✕
- ○ c.   It merges overlapping object proposals using non-maximum suppression
- ○ d.   It ensures every mask shares the same weights across classes

The correct answer is: It allows mask generation to be decoupled from class competition

Response history

Step	Time	Action	State	Marks
1	19/06/25, 13:54:21	Started	Not yet answered	
2	19/06/25, 13:57:36	Saved: It forces binary segmentation for all background objects	Answer saved	
3	**19/06/25, 14:20:07**	**Attempt finished**	**Incorrect**	**0.00**

Question **7**

Correct

Mark 1.00 out of 1.00

Choose the element that Mask R-CNN outputs for each detected instance.

- a. Color values
- b. Anchor probabilities
- c. Aspect ratios
- d. Pixel-level masks ✓

The correct answer is: Pixel-level masks

Response history

Step	Time	Action	State	Marks
1	19/06/25, 13:54:21	Started	Not yet answered	
2	19/06/25, 14:00:01	Saved: Pixel-level masks	Answer saved	
3	**19/06/25, 14:20:07**	**Attempt finished**	**Correct**	**1.00**

Question **8**

Correct

Mark 1.00 out of 1.00

Describe what happens to each frame of a video when YOLOv8 is applied to it.

- ○ a. Image resizing only
- ○ b. Gaussian blur
- ○ c. Grayscale conversion
- ⦿ d. YOLOv8 inference and bounding box plotting ✓

The correct answer is: YOLOv8 inference and bounding box plotting

Response history

Step	Time	Action	State	Marks
1	19/06/25, 13:54:21	Started	Not yet answered	
2	19/06/25, 14:00:01	Saved: YOLOv8 inference and bounding box plotting	Answer saved	
3	**19/06/25, 14:20:07**	**Attempt finished**	**Correct**	**1.00**

Question **9**

Correct

Mark 1.00 out of 1.00

Hide sidebars

Explain the effect of using bilinear interpolation in RoIAlign instead of quantization.

- ◉ a. Allows sub-pixel accuracy in feature extraction, improving segmentation ✓
- ○ b. Improves classification but worsens mask quality
- ○ c. Applies a fixed grid to resize features uniformly
- ○ d. Increases overall training time without affecting accuracy

The correct answer is: Allows sub-pixel accuracy in feature extraction, improving segmentation

Response history

Step	Time	Action	State	Marks
1	19/06/25, 13:54:21	Started	Not yet answered	
2	19/06/25, 14:00:01	Saved: Allows sub-pixel accuracy in feature extraction, improving segmentation	Answer saved	
3	**19/06/25, 14:20:07**	**Attempt finished**	**Correct**	**1.00**

Question **10**

Correct

Mark 1.00 out of 1.00

Hide sidebars

Determine the visual result of executing `results[0].plot()` in a YOLOv8 detection workflow.

- ○ a. Image with bounding boxes and labels ✓
- ○ b. Image tensor matrix
- ○ c. Histogram of class probabilities
- ○ d. Confidence heatmap

The correct answer is: Image with bounding boxes and labels

Response history

Step	Time	Action	State	Marks
1	19/06/25, 13:54:21	Started	Not yet answered	
2	19/06/25, 14:02:30	Saved: Image with bounding boxes and labels	Answer saved	
3	**19/06/25, 14:20:07**	**Attempt finished**	**Correct**	**1.00**

Question **11**

Incorrect

Mark 0.00 out of 1.00

In Faster R-CNN, determine how the RPN handles overlapping anchor predictions.

- ○ a. Using a dense grid where each pixel becomes an anchor
- ○ b. By averaging coordinates of all overlapping anchors
- ○ c. Through non-maximum suppression to retain high-scoring distinct proposals
- ⊙ d. By converting anchors to bounding boxes using confidence score thresholds ✕

The correct answer is: Through non-maximum suppression to retain high-scoring distinct proposals

Response history

Step	Time	Action	State	Marks
1	19/06/25, 13:54:21	Started	Not yet answered	
2	19/06/25, 14:02:30	Saved: By converting anchors to bounding boxes using confidence score thresholds	Answer saved	
3	**19/06/25, 14:20:07**	**Attempt finished**	**Incorrect**	**0.00**

Question 12

Correct

Mark 1.00 out of 1.00

What the improvement Faster R-CNN brings compared to Fast R-CNN.

- ○ a.   Learns proposals via RPN instead of Selective Search ✓
- ○ b.   Adds ReLU activation
- ○ c.   Converts boxes to masks
- ○ d.   Removes background class

The correct answer is: Learns proposals via RPN instead of Selective Search

Response history

Step	Time	Action	State	Marks
1	19/06/25, 13:54:21	Started	Not yet answered	
2	19/06/25, 14:02:30	Saved: Learns proposals via RPN instead of Selective Search	Answer saved	
3	**19/06/25, 14:20:07**	**Attempt finished**	**Correct**	**1.00**

Question 13

Correct

Mark 1.00 out of 1.00

Determine why hysteresis is used in the Canny edge detection algorithm.

○ a.   To suppress all low gradients

◉ b.   To connect weak edges based on strong edge support ✓

○ c.   To avoid high-frequency filtering

○ d.   To quantize orientations to 90 degrees

The correct answer is: To connect weak edges based on strong edge support

Response history

Step	Time	Action	State	Marks
1	19/06/25, 13:54:21	Started	Not yet answered	
2	19/06/25, 14:04:29	Saved: To connect weak edges based on strong edge support	Answer saved	
3	**19/06/25, 14:20:07**	**Attempt finished**	**Correct**	**1.00**

Question 14

Correct

Mark 1.00 out of 1.00

Examine why R-CNN is computationally slower than Fast R-CNN.

- ○ a.   Because region proposals are generated during inference
- ○ b.   Because it uses deeper CNNs
- ○ c.   Because it includes semantic segmentation for each RoI
- ● d.   Because it performs a forward pass for each region proposal individually ✓

The correct answer is: Because it performs a forward pass for each region proposal individually

Response history

Step	Time	Action	State	Marks
1	19/06/25, 13:54:21	Started	Not yet answered	
2	19/06/25, 14:04:29	Saved: Because it performs a forward pass for each region proposal individually	Answer saved	
3	**19/06/25, 14:20:07**	**Attempt finished**	**Correct**	**1.00**

Question 15

Correct

Mark 1.00 out of 1.00

Point out the method R-CNN uses to generate region proposals.

- ○ a. Selective Search ✔
- ○ b. YOLO anchors
- ○ c. Region Proposal Network
- ○ d. Attention maps

The correct answer is: Selective Search

Response history

Step	Time	Action	State	Marks
1	19/06/25, 13:54:21	Started	Not yet answered	
2	19/06/25, 14:04:29	Saved: Selective Search	Answer saved	
3	**19/06/25, 14:20:07**	**Attempt finished**	**Correct**	**1.00**

Question **16**

Incorrect

Mark 0.00 out of 1.00

Reveal the reason why Fast R-CNN performs faster than its predecessor.

- a. Binary image pre-processing ✗
- b. GPU requirement
- c. Use of deeper networks
- d. Single CNN pass with RoI pooling

The correct answer is: Single CNN pass with RoI pooling

Response history

Step	Time	Action	State	Marks
1	19/06/25, 13:54:21	Started	Not yet answered	
2	19/06/25, 14:06:40	Saved: Binary image pre-processing	Answer saved	
3	**19/06/25, 14:20:07**	**Attempt finished**	**Incorrect**	**0.00**

Question 17

Incorrect

Mark 0.00 out of 1.00

In the context of object detection, determine why bounding box regression uses Smooth L1 loss instead of L2.

- ○ a. L2 better adapts to imbalanced datasets
- ⦿ b. Smooth L1 directly minimizes Intersection over Union ✗
- ○ c. Smooth L1 is more robust to outliers and avoids exploding gradients
- ○ d. L2 loss increases numerical stability

The correct answer is: Smooth L1 is more robust to outliers and avoids exploding gradients

Response history

Step	Time	Action	State	Marks
1	19/06/25, 13:54:21	Started	Not yet answered	
2	19/06/25, 14:06:40	Saved: Smooth L1 directly minimizes Intersection over Union	Answer saved	
3	**19/06/25, 14:20:07**	**Attempt finished**	**Incorrect**	**0.00**

Question **18**

Incorrect

Mark 0.00 out of 1.00

Assess the architectural benefit of replacing the SVM classifier in R-CNN with a Softmax classifier in Fast R-CNN.

- ⦿ a. Enables detection of object orientation ✗
- ○ b. Supports non-Euclidean feature spaces
- ○ c. Removes the need for bounding box annotations
- ○ d. Permits end-to-end training of classification and regression

The correct answer is: Permits end-to-end training of classification and regression

Response history

Step	Time	Action	State	Marks
1	19/06/25, 13:54:21	Started	Not yet answered	
2	19/06/25, 14:06:40	Saved: Enables detection of object orientation	Answer saved	
3	**19/06/25, 14:20:07**	**Attempt finished**	**Incorrect**	**0.00**

Question 19

Incorrect

Mark 0.00 out of 1.00

Determine the primary function of a pooling layer in a convolutional neural network.

- ⊙ a. Applies softmax to outputs ✗
- ○ b. Reduces spatial dimensions
- ○ c. Enhances edges
- ○ d. Converts grayscale to RGB

The correct answer is: Reduces spatial dimensions

Response history

Step	Time	Action	State	Marks
1	19/06/25, 13:54:21	Started	Not yet answered	
2	19/06/25, 14:09:42	Saved: Applies softmax to outputs	Answer saved	
3	**19/06/25, 14:20:07**	**Attempt finished**	**Incorrect**	**0.00**

Question 20

Correct

Mark 1.00 out of 1.00

Describe how eye detection can be nested within face detection using Haar cascades.

- ○ a.   Train a single unified classifier
- ● b.   Use hierarchical detection where eyes are searched within face regions ✓
- ○ c.   Generate feature pyramids
- ○ d.   Apply feature merging to both classifiers

The correct answer is: Use hierarchical detection where eyes are searched within face regions

Response history

Step	Time	Action	State	Marks
1	19/06/25, 13:54:21	Started	Not yet answered	
2	19/06/25, 14:09:42	Saved: Use hierarchical detection where eyes are searched within face regions	Answer saved	
3	**19/06/25, 14:20:07**	**Attempt finished**	**Correct**	**1.00**

Question 21

Incorrect

Mark 0.00 out of 1.00

Select the part of a Haar cascade used for detecting candidate regions.

- ○ a. Gaussian filters ✗
- ○ b. Deep feature encoders
- ○ c. Keypoint regression head
- ○ d. Sliding window classifier

The correct answer is: Sliding window classifier

Response history

Step	Time	Action	State	Marks
1	19/06/25, 13:54:21	Started	Not yet answered	
2	19/06/25, 14:09:42	Saved: Gaussian filters	Answer saved	
3	**19/06/25, 14:20:07**	**Attempt finished**	**Incorrect**	**0.00**

Question 22

Incorrect

Mark 0.00 out of 1.00

Hide sidebars

Identify the optimizer often used for CNNs due to its adaptive learning rate.

○ a.   Momentum ✗

○ b.   Adagrad

○ c.   Adam

○ d.   RMSprop

The correct answer is: Adam

Response history

Step	Time	Action	State	Marks
1	19/06/25, 13:54:21	Started	Not yet answered	
2	19/06/25, 14:12:40	Saved: Momentum	Answer saved	
3	**19/06/25, 14:20:07**	**Attempt finished**	**Incorrect**	**0.00**

Question 23

Incorrect

Mark 0.00 out of 1.00

After defining a CNN model architecture, select the next step before training.

- ○ a.   Testing the model
- ● b.   Collecting images ✗
- ○ c.   Compiling the model with loss and optimizer
- ○ d.   Plotting accuracy

The correct answer is: Compiling the model with loss and optimizer

Response history

Step	Time	Action	State	Marks
1	19/06/25, 13:54:21	Started	Not yet answered	
2	19/06/25, 14:12:40	Saved: Collecting images	Answer saved	
3	**19/06/25, 14:20:07**	**Attempt finished**	**Incorrect**	**0.00**

Question **24**

Incorrect

Mark 0.00 out of 1.00

Highlight the parameter in Haar detection that adjusts bounding box filtering sensitivity.

○ a. objectCount

◉ b. thresholdBinary ✗

○ c. maxROI

○ d. minNeighbors

The correct answer is: minNeighbors

Response history

Step	Time	Action	State	Marks
1	19/06/25, 13:54:21	Started	Not yet answered	
2	19/06/25, 14:12:40	Saved: thresholdBinary	Answer saved	
3	**19/06/25, 14:20:07**	**Attempt finished**	**Incorrect**	**0.00**

Question 25

Incorrect

Mark 0.00 out of 1.00

Identify the operation that Gaussian smoothing performs before edge detection.

○ a.   Extracts corners

○ b.   Computes gradients directly

◉ c.   Enhances edges ✗

○ d.   Reduces noise in the image

The correct answer is: Reduces noise in the image

Response history

Step	Time	Action	State	Marks
1	19/06/25, 13:54:21	Started	Not yet answered	
2	19/06/25, 14:19:59	Saved: Enhances edges	Answer saved	
3	**19/06/25, 14:20:07**	**Attempt finished**	**Incorrect**	**0.00**

Question 26

Correct

Mark 1.00 out of 1.00

Hide sidebars

Determine how the RPN in Faster R-CNN predicts object locations.

- ○ a. With Softmax classification
- ● b. By regressing bounding box coordinates for anchors ✓
- ○ c. Using Gaussian filters
- ○ d. From thresholding segmentation masks

The correct answer is: By regressing bounding box coordinates for anchors

Response history

Step	Time	Action	State	Marks
1	19/06/25, 13:54:21	Started	Not yet answered	
2	19/06/25, 14:19:59	Saved: By regressing bounding box coordinates for anchors	Answer saved	
3	**19/06/25, 14:20:07**	**Attempt finished**	**Correct**	**1.00**

Question **27**

Incorrect

Mark 0.00 out of 1.00

Select the justification for applying feature map sharing in Fast R-CNN.

- ○ a.   It reduces feature dimensionality by using average pooling
- ○ b.   It performs anchor refinement before classification
- ⦿ c.   It prevents overfitting during testing ✗
- ○ d.   It avoids redundant computation by reusing convolution outputs for all regions

The correct answer is: It avoids redundant computation by reusing convolution outputs for all regions

Response history

Step	Time	Action	State	Marks
1	19/06/25, 13:54:21	Started	Not yet answered	
2	19/06/25, 14:19:08	Saved: It prevents overfitting during testing	Answer saved	
3	**19/06/25, 14:20:07**	**Attempt finished**	**Incorrect**	**0.00**

Question 28

Correct

Mark 1.00 out of 1.00

Choose the behavior exhibited by a MaxPooling2D operation.

- ○ a. Selecting the maximum value from each kernel region ✓
- ○ b. Summing all pixels in a region
- ○ c. Selecting the smallest value
- ○ d. Removing padding from convolution

The correct answer is: Selecting the maximum value from each kernel region

Response history

Step	Time	Action	State	Marks
1	19/06/25, 13:54:21	Started	Not yet answered	
2	19/06/25, 14:18:32	Saved: Selecting the maximum value from each kernel region	Answer saved	
3	**19/06/25, 14:20:07**	**Attempt finished**	**Correct**	**1.00**

Correct

Mark 1.00 out of 1.00

Explain why Mask R-CNN separates class and mask predictions.

- ○ a. To improve bounding box regression
- ○ b. To reuse weights
- ◉ c. To allow parallel prediction of masks and classes ✓
- ○ d. To reduce the number of classes

The correct answer is: To allow parallel prediction of masks and classes

Response history

Step	Time	Action	State	Marks
1	19/06/25, 13:54:21	Started	Not yet answered	
2	19/06/25, 14:18:32	Saved: To allow parallel prediction of masks and classes	Answer saved	
3	**19/06/25, 14:20:07**	**Attempt finished**	**Correct**	**1.00**

Question **30**

Correct

Mark 1.00 out of 1.00

Evaluate the main reason Mask R-CNN adds a third branch to the Faster R-CNN structure.

○ a. To increase the detection threshold

○ b. To optimize with adversarial training

○ c. To allow probabilistic classification with dropout

◉ d. To perform instance segmentation with per-pixel predictions ✓

The correct answer is: To perform instance segmentation with per-pixel predictions

Response history

Step	Time	Action	State	Marks
1	19/06/25, 13:54:21	Started	Not yet answered	
2	19/06/25, 14:18:32	Saved: To perform instance segmentation with per-pixel predictions	Answer saved	
3	**19/06/25, 14:20:07**	**Attempt finished**	**Correct**	**1.00**

Question **31**

Correct

Mark 1.00 out of 1.00

Choose the model type suitable for performing instance segmentation in YOLOv8.

- a. yolov8n.pt
- b. yolov8s-cls-segment.pt
- c. yolov8m-det.pt
- d. yolov8s-seg.pt ✓

The correct answer is: yolov8s-seg.pt

Response history

Step	Time	Action	State	Marks
1	19/06/25, 13:54:21	Started	Not yet answered	
2	19/06/25, 14:17:53	Saved: yolov8s-seg.pt	Answer saved	
3	**19/06/25, 14:20:07**	**Attempt finished**	**Correct**	**1.00**

Question 32

Correct

Mark 1.00 out of 1.00

Identify the type of output generated by the mask branch in Mask R-CNN.

- ○ a.   Color histograms
- ○ b.   Bounding box center coordinates
- ⦿ c.   Binary segmentation maps ✓
- ○ d.   Class labels only

The correct answer is: Binary segmentation maps

Response history

Step	Time	Action	State	Marks
1	19/06/25, 13:54:21	Started	Not yet answered	
2	19/06/25, 14:17:53	Saved: Binary segmentation maps	Answer saved	
3	**19/06/25, 14:20:07**	**Attempt finished**	**Correct**	**1.00**

Question 33

Correct

Mark 1.00 out of 1.00

Clarify the purpose of anchors in the Faster R-CNN architecture.

- a.   Reduce the model size
- b.   Match pixel intensities
- c.   Store feature vectors
- d.   Represent potential object bounding boxes ✓

The correct answer is: Represent potential object bounding boxes

Response history

Step	Time	Action	State	Marks
1	19/06/25, 13:54:21	Started	Not yet answered	
2	19/06/25, 14:17:53	Saved: Represent potential object bounding boxes	Answer saved	
3	**19/06/25, 14:20:07**	**Attempt finished**	**Correct**	**1.00**

Question **34**

Incorrect

Mark 0.00 out of 1.00

Identify the best way to iterate over all image files in a folder when applying YOLOv8.

- ○ a.   listdir loop
- ◉ b.   pandas loop ✗
- ○ c.   glob.glob inside a for loop
- ○ d.   os.path.join

The correct answer is: glob.glob inside a for loop

Response history

Step	Time	Action	State	Marks
1	19/06/25, 13:54:21	Started	Not yet answered	
2	19/06/25, 14:17:11	Saved: pandas loop	Answer saved	
3	**19/06/25, 14:20:07**	**Attempt finished**	**Incorrect**	**0.00**

Question 35

Incorrect

Mark 0.00 out of 1.00

Hide sidebars

Explain how the classification mode in YOLOv8 differs from object detection mode.

○ a.   It outputs bounding boxes only

⦿ b.   It detects masks for each object ✗

○ c.   It uses region proposal networks

○ d.   It assigns a label to the entire image without bounding boxes

The correct answer is: It assigns a label to the entire image without bounding boxes

Response history

Step	Time	Action	State	Marks
1	19/06/25, 13:54:21	Started	Not yet answered	
2	19/06/25, 14:17:11	Saved: It detects masks for each object	Answer saved	
3	**19/06/25, 14:20:07**	**Attempt finished**	**Incorrect**	**0.00**

Question 36

Incorrect

Mark 0.00 out of 1.00

Choose the type of feature that convolutional layers typically extract from image data.

- ○ a. Spatial features like edges and textures
- ○ b. Color labels
- ○ c. Metadata
- ● d. Pixel coordinates ✗

The correct answer is: Spatial features like edges and textures

Response history

Step	Time	Action	State	Marks
1	19/06/25, 13:54:21	Started	Not yet answered	
2	19/06/25, 14:17:11	Saved: Pixel coordinates	Answer saved	
3	**19/06/25, 14:20:07**	**Attempt finished**	**Incorrect**	**0.00**

Question 37

Incorrect

Mark 0.00 out of 1.00

Hide sidebars

Combine two processes to describe the goal of object detection.

- ○ a.   Alignment and resizing
- ○ b.   Segmentation and translation
- ○ c.   Classification and localization
- ⊙ d.   Classification and normalization ✗

The correct answer is: Classification and localization

Response history

Step	Time	Action	State	Marks
1	19/06/25, 13:54:21	Started	Not yet answered	
2	19/06/25, 14:14:12	Saved: Classification and normalization	Answer saved	
3	**19/06/25, 14:20:07**	**Attempt finished**	**Incorrect**	**0.00**

Question 38

Correct

Mark 1.00 out of 1.00

Recognize the module introduced by Faster R-CNN to eliminate Selective Search.

○ a.   Segmentation Head

○ b.   Region Classifier

○ c.   Anchor Pooling

◉ d.   Region Proposal Network (RPN) ✓

The correct answer is: Region Proposal Network (RPN)

Response history

Step	Time	Action	State	Marks
1	19/06/25, 13:54:21	Started	Not yet answered	
2	19/06/25, 14:14:12	Saved: Region Proposal Network (RPN)	Answer saved	
3	**19/06/25, 14:20:07**	**Attempt finished**	**Correct**	**1.00**

Question **39**

Correct

Mark 1.00 out of 1.00

Clarify how YOLOv8 distinguishes and counts objects by their class during real-time detection.

- ○ a. By summing all bounding boxes
- ○ b. By drawing all class labels
- ○ c. By filtering repeated frames
- ● d. By checking class IDs of each detection ✓

The correct answer is: By checking class IDs of each detection

Response history

Step	Time	Action	State	Marks
1	19/06/25, 13:54:21	Started	Not yet answered	
2	19/06/25, 14:14:12	Saved: By checking class IDs of each detection	Answer saved	
3	**19/06/25, 14:20:07**	**Attempt finished**	**Correct**	**1.00**

Question **40**

Incorrect

Mark 0.00 out of 1.00

Hide sidebars

Canny edge detection involves non-maximum suppression for what main purpose?

- a.   Increase computation speed
- b.   Thin edge responses to precise locations
- c.   Connect broken edges
- d.   Segment regions with high intensity ✗

The correct answer is: Thin edge responses to precise locations

Response history

Step	Time	Action	State	Marks
1	19/06/25, 13:54:21	Started	Not yet answered	
2	19/06/25, 14:13:01	Saved: Segment regions with high intensity	Answer saved	
3	**19/06/25, 14:20:07**	**Attempt finished**	**Incorrect**	**0.00**

◄ Assignment 5 marks

Jump to...

📋 Table of contents

> **General**

> **Topic 1**

> **Topic 2**

> **Topic 3**

> **Topic 4**

> **Topic 5**

> **Topic 6**

> **Topic 7**

> **Topic 8**

> **Topic 9**

> **Topic 10**

> **Topic 11**

> **Topic 12**

> **Topic 13**

> **Topic 14**

> **Topic 15**

> **Topic 16**

> **Topic 17**

˅ **Topic 18**

Hide sidebars

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Assignment 5 marks

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