UNIVERSITY OF PETRA

AAA

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ا2 DS&AI_ابراهيم احمد جابر الطيطي 202111335

Started on	Thursday, 19 June 2025, 1:48 PM
State	Finished
Completed on	Thursday, 19 June 2025, 2:44 PM
Time taken	56 mins 16 secs
Grade	**37.00** out of 40.00 (**92.5**%)

Question 1

Correct

Mark 1.00 out of 1.00

Hide sidebars

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

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

The correct answer is: Easily deployable for standard detection tasks

Response history

Step	Time	Action	State	Marks
1	19/06/25, 13:48:05	Started	Not yet answered	
2	19/06/25, 13:50:21	Saved: Easily deployable for standard detection tasks	Answer saved	
3	**19/06/25, 14:44:21**	**Attempt finished**	**Correct**	**1.00**

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

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

The correct answer is: Spatial features like edges and textures

Response history

Step	Time	Action	State	Marks
1	19/06/25, 13:48:05	Started	Not yet answered	
2	19/06/25, 13:50:21	Saved: Spatial features like edges and textures	Answer saved	
3	**19/06/25, 14:44:21**	**Attempt finished**	**Correct**	**1.00**

Question 3

Correct

Mark 1.00 out of 1.00

Hide sidebars

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

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

The correct answer is: Reduces spatial dimensions

Response history

Step	Time	Action	State	Marks
1	19/06/25, 13:48:05	Started	Not yet answered	
2	19/06/25, 13:50:21	Saved: Reduces spatial dimensions	Answer saved	
3	**19/06/25, 14:44:21**	**Attempt finished**	**Correct**	**1.00**

Question 4

Correct

Mark 1.00 out of 1.00

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

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

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, 13:48:05	Started	Not yet answered	
2	19/06/25, 13:53:44	Saved: Use hierarchical detection where eyes are searched within face regions	Answer saved	
3	**19/06/25, 14:44:21**	**Attempt finished**	**Correct**	**1.00**

Question 5

Correct

Mark 1.00 out of 1.00

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

○ a.   To avoid high-frequency filtering

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

○ c.   To suppress all low gradients

○ 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, 13:48:05	Started	Not yet answered	
2	19/06/25, 13:53:44	Saved: To connect weak edges based on strong edge support	Answer saved	
3	**19/06/25, 14:44:21**	**Attempt finished**	**Correct**	**1.00**

Question 6

Correct

Mark 1.00 out of 1.00

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

○ a.   Region Proposal Network

○ b.   Attention maps

○ c.   YOLO anchors

◉ d.   Selective Search ✓

The correct answer is: Selective Search

Response history

Step	Time	Action	State	Marks
1	19/06/25, 13:48:05	Started	Not yet answered	
2	19/06/25, 13:53:44	Saved: Selective Search	Answer saved	
3	**19/06/25, 14:44:21**	**Attempt finished**	**Correct**	**1.00**

Question 7

Correct

Mark 1.00 out of 1.00

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

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

The correct answer is: Represent potential object bounding boxes

Response history

Step	Time	Action	State	Marks
1	19/06/25, 13:48:05	Started	Not yet answered	
2	19/06/25, 13:55:02	Saved: Represent potential object bounding boxes	Answer saved	
3	**19/06/25, 14:44:21**	**Attempt finished**	**Correct**	**1.00**

Question 8

Correct

Mark 1.00 out of 1.00

Combine two processes to describe the goal of object detection.

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

The correct answer is: Classification and localization

Response history

Step	Time	Action	State	Marks
1	19/06/25, 13:48:05	Started	Not yet answered	
2	19/06/25, 13:55:02	Saved: Classification and localization	Answer saved	
3	**19/06/25, 14:44:21**	**Attempt finished**	**Correct**	**1.00**

Question 9

Correct

Mark 1.00 out of 1.00

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

- ○ a.   Region Proposal Network (RPN) ✓
- ○ b.   Segmentation Head
- ○ c.   Region Classifier
- ○ d.   Anchor Pooling

The correct answer is: Region Proposal Network (RPN)

Response history

Step	Time	Action	State	Marks
1	19/06/25, 13:48:05	Started	Not yet answered	
2	19/06/25, 13:55:02	Saved: Region Proposal Network (RPN)	Answer saved	
3	**19/06/25, 14:44:21**	**Attempt finished**	**Correct**	**1.00**

Question **10**

Correct

Mark 1.00 out of 1.00

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

- ○ a. It assigns a label to the entire image without bounding boxes ✓
- ○ b. It outputs bounding boxes only
- ○ c. It uses region proposal networks
- ○ d. It detects masks for each object

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, 13:48:05	Started	Not yet answered	
2	19/06/25, 13:54:42	Saved: It assigns a label to the entire image without bounding boxes	Answer saved	
3	**19/06/25, 14:44:21**	**Attempt finished**	**Correct**	**1.00**

Question 11

Correct

Mark 1.00 out of 1.00

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

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

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

Response history

Step	Time	Action	State	Marks
1	19/06/25, 13:48:05	Started	Not yet answered	
2	19/06/25, 13:54:42	Saved: Compiling the model with loss and optimizer	Answer saved	
3	**19/06/25, 14:44:21**	**Attempt finished**	**Correct**	**1.00**

Question **12**

Correct

Mark 1.00 out of 1.00

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

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

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

Response history

Step	Time	Action	State	Marks
1	19/06/25, 13:48:05	Started	Not yet answered	
2	19/06/25, 13:54:42	Saved: To allow parallel prediction of masks and classes	Answer saved	
3	**19/06/25, 14:44:21**	**Attempt finished**	**Correct**	**1.00**

Question **13**

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 allow probabilistic classification with dropout

○ b.   To optimize with adversarial training

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

○ d.   To increase the detection threshold

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

Response history

Step	Time	Action	State	Marks
1	19/06/25, 13:48:05	Started	Not yet answered	
2	19/06/25, 13:55:21	Saved: To perform instance segmentation with per-pixel predictions	Answer saved	
3	**19/06/25, 14:44:21**	**Attempt finished**	**Correct**	**1.00**

Question 14

Correct

Mark 1.00 out of 1.00

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

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

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

Response history

Step	Time	Action	State	Marks
1	19/06/25, 13:48:05	Started	Not yet answered	
2	19/06/25, 13:55:21	Saved: Extract fixed-size feature vectors from proposals	Answer saved	
3	**19/06/25, 14:44:21**	**Attempt finished**	**Correct**	**1.00**

Question **15**

Correct

Mark 1.00 out of 1.00

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. Increases overall training time without affecting accuracy
- ○ d. Applies a fixed grid to resize features uniformly

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

Response history

Step	Time	Action	State	Marks
1	19/06/25, 13:48:05	Started	Not yet answered	
2	19/06/25, 13:55:21	Saved: Allows sub-pixel accuracy in feature extraction, improving segmentation	Answer saved	
3	**19/06/25, 14:44:21**	**Attempt finished**	**Correct**	**1.00**

Question **16**

Correct

Mark 1.00 out of 1.00

Hide sidebars

Identify the operation that Gaussian smoothing performs before edge detection.

- ⚪ a.   Reduces noise in the image ✓
- ⚪ b.   Computes gradients directly
- ⚪ c.   Enhances edges
- ⚪ d.   Extracts corners

The correct answer is: Reduces noise in the image

Response history

Step	Time	Action	State	Marks
1	19/06/25, 13:48:05	Started	Not yet answered	
2	19/06/25, 13:58:55	Saved: Reduces noise in the image	Answer saved	
3	**19/06/25, 14:44:21**	**Attempt finished**	**Correct**	**1.00**

Question **17**

Incorrect

Mark 0.00 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.   Class labels only

○ d.   Binary segmentation maps

The correct answer is: Binary segmentation maps

Response history

Step	Time	Action	State	Marks
1	19/06/25, 13:48:05	Started	Not yet answered	
2	19/06/25, 13:58:55	Saved: Color histograms	Answer saved	
3	**19/06/25, 14:44:21**	**Attempt finished**	**Incorrect**	**0.00**

Question 18

Correct

Mark 1.00 out of 1.00

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

- a. Grayscale conversion
- b. Image resizing only
- c. Gaussian blur
- 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, 13:48:05	Started	Not yet answered	
2	19/06/25, 13:58:55	Saved: YOLOv8 inference and bounding box plotting	Answer saved	
3	**19/06/25, 14:44:21**	**Attempt finished**	**Correct**	**1.00**

Question 19

Incorrect

Mark 0.00 out of
1.00

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

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

The correct answer is: yolov8s-seg.pt

Response history

Step	Time	Action	State	Marks
1	19/06/25, 13:48:05	Started	Not yet answered	
2	19/06/25, 13:58:20	Saved: yolov8s-cls-segment.pt	Answer saved	
3	**19/06/25, 14:44:21**	**Attempt finished**	**Incorrect**	**0.00**

Question 20

Correct

Mark 1.00 out of 1.00

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

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

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

Response history

Step	Time	Action	State	Marks
1	19/06/25, 13:48:05	Started	Not yet answered	
2	19/06/25, 13:58:20	Saved: To remove false matches using spatial constraints	Answer saved	
3	**19/06/25, 14:44:21**	**Attempt finished**	**Correct**	**1.00**

Question 21

Correct

Mark 1.00 out of 1.00

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

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

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, 13:48:05	Started	Not yet answered	
2	19/06/25, 13:58:20	Saved: It avoids redundant computation by reusing convolution outputs for all regions	Answer saved	
3	**19/06/25, 14:44:21**	**Attempt finished**	**Correct**	**1.00**

Question 22

Correct

Mark 1.00 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.   Supports non-Euclidean feature spaces

○ b.   Removes the need for bounding box annotations

◉ c.   Permits end-to-end training of classification and regression ✓

○ d.   Enables detection of object orientation

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

Response history

Step	Time	Action	State	Marks
1	19/06/25, 13:48:05	Started	Not yet answered	
2	19/06/25, 14:02:07	Saved: Permits end-to-end training of classification and regression	Answer saved	
3	**19/06/25, 14:44:21**	**Attempt finished**	**Correct**	**1.00**

Question 23

Correct

Mark 1.00 out of 1.00

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

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

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

Response history

Step	Time	Action	State	Marks
1	19/06/25, 13:48:05	Started	Not yet answered	
2	19/06/25, 14:02:07	Saved: Learns proposals via RPN instead of Selective Search	Answer saved	
3	**19/06/25, 14:44:21**	**Attempt finished**	**Correct**	**1.00**

Question 24

Correct

Mark 1.00 out of 1.00

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

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

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, 13:48:05	Started	Not yet answered	
2	19/06/25, 14:02:07	Saved: Each RoI has separate mask outputs for each class, avoiding softmax	Answer saved	
3	**19/06/25, 14:44:21**	**Attempt finished**	**Correct**	**1.00**

Question 25

Correct

Mark 1.00 out of 1.00

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

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

The correct answer is: Image with bounding boxes and labels

Response history

Step	Time	Action	State	Marks
1	19/06/25, 13:48:05	Started	Not yet answered	
2	19/06/25, 14:03:01	Saved: Image with bounding boxes and labels	Answer saved	
3	**19/06/25, 14:44:21**	**Attempt finished**	**Correct**	**1.00**

Question **26**

Correct

Mark 1.00 out of 1.00

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

○ a.   From thresholding segmentation masks

◉ b.   By regressing bounding box coordinates for anchors ✓

○ c.   With Softmax classification

○ d.   Using Gaussian filters

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

Response history

Step	Time	Action	State	Marks
1	19/06/25, 13:48:05	Started	Not yet answered	
2	19/06/25, 14:03:01	Saved: By regressing bounding box coordinates for anchors	Answer saved	
3	**19/06/25, 14:44:21**	**Attempt finished**	**Correct**	**1.00**

Question 27

Correct

Mark 1.00 out of 1.00

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

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

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

Response history

Step	Time	Action	State	Marks
1	19/06/25, 13:48:05	Started	Not yet answered	
2	19/06/25, 14:03:01	Saved: They increase robustness to varying object shapes and scales	Answer saved	
3	**19/06/25, 14:44:21**	**Attempt finished**	**Correct**	**1.00**

Question 28

Correct

Mark 1.00 out of
1.00

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

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

The correct answer is: Single CNN pass with RoI pooling

Response history

Step	Time	Action	State	Marks
1	19/06/25, 13:48:05	Started	Not yet answered	
2	19/06/25, 14:05:09	Saved: Single CNN pass with RoI pooling	Answer saved	
3	**19/06/25, 14:44:21**	**Attempt finished**	**Correct**	**1.00**

Question 29

Correct

Mark 1.00 out of 1.00

Choose the behavior exhibited by a MaxPooling2D operation.

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

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

Response history

Step	Time	Action	State	Marks
1	19/06/25, 13:48:05	Started	Not yet answered	
2	19/06/25, 14:05:09	Saved: Selecting the maximum value from each kernel region	Answer saved	
3	**19/06/25, 14:44:21**	**Attempt finished**	**Correct**	**1.00**

Question 30

Correct

Mark 1.00 out of 1.00

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

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

The correct answer is: Sliding window classifier

Response history

Step	Time	Action	State	Marks
1	19/06/25, 13:48:05	Started	Not yet answered	
2	19/06/25, 14:05:09	Saved: Sliding window classifier	Answer saved	
3	**19/06/25, 14:44:21**	**Attempt finished**	**Correct**	**1.00**

Question 31

Correct

Mark 1.00 out of 1.00

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

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

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

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Response history

Step	Time	Action	State	Marks
1	19/06/25, 13:48:05	Started	Not yet answered	
2	19/06/25, 14:05:23	Saved: Because it performs a forward pass for each region proposal individually	Answer saved	
3	**19/06/25, 14:44:21**	**Attempt finished**	**Correct**	**1.00**

Question **32**

Correct

Mark 1.00 out of
1.00

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

○ a.   Connect broken edges

○ b.   Segment regions with high intensity

◉ c.   Thin edge responses to precise locations ✓

○ d.   Increase computation speed

The correct answer is: Thin edge responses to precise locations

Response history

Step	Time	Action	State	Marks
1	19/06/25, 13:48:05	Started	Not yet answered	
2	19/06/25, 14:05:23	Saved: Thin edge responses to precise locations	Answer saved	
3	**19/06/25, 14:44:21**	**Attempt finished**	**Correct**	**1.00**

Question **33**

Correct

Mark 1.00 out of 1.00

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

○ a.   Smooth L1 directly minimizes Intersection over Union

○ b.   L2 better adapts to imbalanced datasets

◉ 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, 13:48:05	Started	Not yet answered	
2	19/06/25, 14:05:23	Saved: Smooth L1 is more robust to outliers and avoids exploding gradients	Answer saved	
3	**19/06/25, 14:44:21**	**Attempt finished**	**Correct**	**1.00**

Question 34

Correct

Mark 1.00 out of 1.00

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

- ○ a.   minNeighbors ✓
- ○ b.   objectCount
- ○ c.   maxROI
- ○ d.   thresholdBinary

The correct answer is: minNeighbors

Response history

Step	Time	Action	State	Marks
1	19/06/25, 13:48:05	Started	Not yet answered	
2	19/06/25, 14:06:24	Saved: minNeighbors	Answer saved	
3	**19/06/25, 14:44:21**	**Attempt finished**	**Correct**	**1.00**

Question 35

Correct

Mark 1.00 out of 1.00

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

- ○ a. Anchor probabilities
- ⦿ b. Pixel-level masks ✔
- ○ c. Aspect ratios
- ○ d. Color values

The correct answer is: Pixel-level masks

Response history

Step	Time	Action	State	Marks
1	19/06/25, 13:48:05	Started	Not yet answered	
2	19/06/25, 14:06:24	Saved: Anchor probabilities	Answer saved	
3	19/06/25, 14:07:20	Saved: Pixel-level masks	Answer saved	
4	**19/06/25, 14:44:21**	**Attempt finished**	**Correct**	**1.00**

Question 36

Correct

Mark 1.00 out of 1.00

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

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

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

Response history

Step	Time	Action	State	Marks
1	19/06/25, 13:48:05	Started	Not yet answered	
2	19/06/25, 14:06:24	Saved: By summing all bounding boxes	Answer saved	
3	19/06/25, 14:06:52	Saved: By checking class IDs of each detection	Answer saved	
4	**19/06/25, 14:44:21**	**Attempt finished**	**Correct**	**1.00**

Question 37

Incorrect

Mark 0.00 out of 1.00

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

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

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, 13:48:05	Started	Not yet answered	
2	19/06/25, 14:06:48	Saved: By converting anchors to bounding boxes using confidence score thresholds	Answer saved	
3	**19/06/25, 14:44:21**	**Attempt finished**	**Incorrect**	**0.00**

Question **38**

Correct

Mark 1.00 out of 1.00

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

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

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

Response history

Step	Time	Action	State	Marks
1	19/06/25, 13:48:05	Started	Not yet answered	
2	19/06/25, 14:07:35	Saved: glob.glob inside a for loop	Answer saved	
3	**19/06/25, 14:44:21**	**Attempt finished**	**Correct**	**1.00**

Question **39**

Correct

Mark 1.00 out of 1.00

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

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

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, 13:48:05	Started	Not yet answered	
2	19/06/25, 14:07:35	Saved: It allows mask generation to be decoupled from class competition	Answer saved	
3	**19/06/25, 14:44:21**	**Attempt finished**	**Correct**	**1.00**

Question **40**

Correct

Mark 1.00 out of 1.00

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

- a. RMSprop
- b. Adagrad
- c. Momentum
- d. Adam ✓

The correct answer is: Adam

Response history

Step	Time	Action	State	Marks
1	19/06/25, 13:48:05	Started	Not yet answered	
2	19/06/25, 14:07:57	Saved: Adam	Answer saved	
3	**19/06/25, 14:44:21**	**Attempt finished**	**Correct**	**1.00**

◄ Assignment 5 marks

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