

Detectron2 and TFOD 2

Assignment Questions



RCNN&Yolo

1. What types of tasks does Detectron2 support?
2. Why is data annotation important when training object detection models?
3. What does batch size refer to in the context of model training?
4. What is the purpose of pretrained weights in object detection models?
5. How can you verify that Detectron2 was installed correctly?
6. What is TFOD2, and why is it widely used?
7. How does learning rate affect model training in Detectron2?
8. Why might Detectron2 use PyTorch as its backend framework?
9. What types of pretrained models does TFOD2 support?
10. How can data path errors impact Detectron2?
11. What is Detectron2?
12. What are TFRecord files, and why are they used in TFOD2?
13. What evaluation metrics are typically used with Detectron2?
14. How do you perform inference with a trained Detectron2 model?
15. What does TFOD2 stand for, and what is it designed for?
16. What does fine-tuning pretrained weights involve?
17. How is training started in TFOD2?
18. What does COCO format represent, and why is it popular in Detectron2?
19. Why is evaluation curve plotting important in Detectron2?
20. How do you configure data paths in TFOD2?
21. Can you run Detectron2 on a CPU?
22. Why are label maps used in TFOD2?
23. What makes TFOD2 popular for real-time detection tasks?
24. How does batch size impact GPU memory usage?
25. What's the role of Intersection over Union (IoU) in model evaluation?
26. What is Faster R-CNN, and does TFOD2 support it?
27. How does Detectron2 use pretrained weights?
28. What file format is typically used to store training data in TFOD2?
29. What is the difference between semantic segmentation and instance segmentation?
30. Can Detectron2 detect custom classes during inference?
31. Why is pipeline.config essential in TFOD2?
32. What type of models does TFOD2 support for object detection?
33. What happens if the learning rate is too high during training?
34. What is COCO JSON format?
35. Why is TensorFlow Lite compatibility important in TFOD2?

Practical

1. How do you install Detectron2 using pip and check the version of Detectron2?
2. How do you perform inference with Detectron2 using an online image?
3. How do you visualize evaluation metrics in Detectron2, such as training loss?
4. How do you run inference with TFOD2 on an online image?
5. How do you install TensorFlow Object Detection API in Jupyter Notebook?
6. How can you load a pre-trained TensorFlow Object Detection model?
7. How do you preprocess an image from the web for TFOD2 inference?
8. How do you visualize bounding boxes for detected objects in TFOD2 inference?
9. How do you define classes for custom training in TFOD2?
10. How do you define classes for custom training in TFOD2?
11. How do you resize an image before detecting objects
12. How can you apply a color filter (e.g., red filter) to an image?