Image segmentation

Assignment Questions

PW SKILLS

1. Define image segmentation and discuss its importance in computer vision applications. Provide examples of tasks where image segmentation is crucial.

2. Explain the difference between semantic segmentation and instance segmentation. Provide examples of each and discuss their applications.

3. Discuss the challenges faced in image segmentation, such as occlusions, object variability, and boundary ambiguity. Propose potential solutions or techniques to address these challenges.

4. Explain the working principles of popular image segmentation algorithms such as U-Net and Mask R-CNN. Compare their architectures, strengths, and weaknesses

5. Evaluate the performance of image segmentation algorithms on standard benchmark datasets such as Pascal VOC and COCO. Compare and analyze the results of different algorithms in terms of accuracy, speed, and memory efficiency.