

1. Explain histogram matching procedure in detail.
  2. What are the advantages of normalization in image processing?
  3. Discuss following for digital image (a) Scaling (b) Resizing
  4. When would it be suitable to use histogram equalization? Briefly outline the steps to histogram-equalize a given image.
  5. Describe the Canny edge detector. What are the steps involved in edge detection using this detector. Use diagrams where necessary in your explanation.
  6. Which pre-processing filter is effective for removing fine black noise on targets with a white background?
  7. Which pre-processing filter is effective for removing fine black noise on targets with a white background?
  8. Define Digital Image?
  9. What Is Dynamic Range?
  10. What Do You Mean By Color Model?
  11. What are the different machine vision system types and platforms?
  12. What are the parts of a vision system?
  13. Explain steps of SIFT keypoint detector algorithm.
  14. Explain steps of Harris corner detector algorithm.
  15. What are advantages of local features?
  16. What is an edge? Discussed its different aspects.
  17. What is Sobel operator?
  18. What is moving average filter?
  19. What is segmentation filter
  20. What type of image filters should be used for noise reduction?
  21. Discuss smoothing and sharpening filter.
  22. Discuss in detail histogram equalization.
  23. Discuss histogram matching process.
  24. Classify the classical filtering operations
  25. Explain about the corner and interest point detection?
  26. Write about the edge detection techniques?
  27. Is machine vision able to work with transparent or translucent objects?
  28. Explain the primary goals of computer vision as a field of study.
  29. List five real-world applications of computer vision in healthcare.
  30. What is a pixel, and how is it represented in a digital image?
  31. Explain the concept of grayscale and binary image representation.
  32. How are pixel operations like addition, subtraction, and multiplication used in image processing?
  33. What is the significance of image resolution in computer vision tasks?
  34. What is the RGB color model, and how is it used in computer vision?
  35. Explain the difference between RGB, HSV, and YCbCr color spaces.
  36. Why is color space conversion important in image processing?
  37. What are the common types of noise found in digital images, and how do they affect image quality?
  38. Compare the performance of Gaussian smoothing and median filtering for noise reduction.
  39. What is the difference between linear and non-linear spatial filters?
  40. Explain the working of a mean (averaging) filter and its applications.
  41. How does a median filter help in reducing salt-and-pepper noise?
  42. What is the purpose of a high-pass filter in image processing?
  43. How do you design a spatial filter mask for edge detection?
  44. How can you determine if an image is under-exposed or over-exposed using its histogram?
  45. What is the purpose of image sharpening, and how does it differ from image smoothing?
  46. Explain the Laplacian operator and its role in edge detection and image sharpening.
  47. How does the Sobel operator work for gradient-based edge detection?
  48. What is the difference between first-order and second-order derivative filters in image sharpening?
  49. Describe the process of image formation in a pinhole camera model.
  50. What is the role of perspective projection in imaging geometry?
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