



Answer all the following questions

Question 1: True of False

(50 Marks)

1. Human perception is one problem of text-based image and video retrieval ☒
2. Aircraft and satellites are major platforms for the sensors ☒
3. The use of simple features like color, shape or texture is usually enough for good images matching ☒
4. Image registration consists of computing the geometric transformation between two data sets ☒
5. Good interest point detectors should detect most of the inliers' set of points ☒
6. In RS, the sensed image is transformed over the reference one according to a mapping model ☒
7. CBIR systems support search by either an example or a sketch or both of them together with text search ☒
8. Local feature detection means extracting feature vector descriptor surrounding each interest point ☒
9. Nearest neighbor and linear or cubic interpolation are examples of feature extraction methods ☒
10. Outliers represent the true matches between two sets of detected points ☒
11. The similarity check between two feature descriptors can be done using Manhattan distance as a metric ☒
12. Control points is another name for interest keypoints ☒
13. When both Eigen values are small and E is almost constant in all directions, the point represents an edge ☒
14. Satellite imagery includes panchromatic and multispectral images ☒
15. Image transformation means removing some features or components of the image ☒
16. SIFT Algorithm is robust against illumination changes but not against noise ☒
17. Haar Wavelets decomposition can be used to extract texture feature from images ☒
18. NNS algorithm is used to match two key-point descriptors ☒
19. Rotation and view direction change are important problems of registering multisensory data ☒
20. Image fusion is required for obtaining good image registration ☒
21. Multimodal registration includes overlaying images taken from different view points ☒
22. Matching two images means determining the correspondence between descriptors in two views ☒
23. Good detectors should detect most of the true interest points ☒
24. Robot navigation and moving object tracking are examples of local features applications ☒
25. Color-layout means how much the gray level of each pixel ☒
26. Radar and optical images are captured using the same sensors ☒



27. Human perception is one of the disadvantages of text-based image retrieval T
28. Before and after comparison is done using human experts F
29. False matching points are called outliers ^{or} artifacts T
30. IMatch is an example of a CBIR system that uses color and texture matching F
31. Noise graphs are used to measure how accurate the retrieval process T
32. CBIR overcomes the limits of keywords approach T
33. Similarity measurements in CBIR is done using GCH T
34. "Edge": significant change in all directions F
35. True matching points in remote ^{sensing} are called tie points F
36. Spatial location and pixel intensity are examples of local features T
37. Three matching points ^{at} least are required to register two images F
38. Global color histogram is used to represent the shape feature in within an image F X F
39. Interest point detector should be well localized T
40. Color histogram does not include any spatial information about an image T
41. In flat region: no change in all directions T
42. Haar Wavelets is used to represent texture features within images T
43. CBIR is used to ^{build} easy to build an automatic process T
44. Radar sensors need sun's energy during the sending process F
45. Applications of computer vision include health, safety, and security T
46. Corner point can be recognized in a window T
47. SIFT stands for scale invariant feature transform T
48. Video retrieval systems are built based on the contents of the video rather than the text annotations
49. "Corner": no change along the edge direction F
50. Relevant images means images in the same class or group T
51. Color and textures are examples of local features F
52. Applications of CBIR include face recognition and PACSs T
53. Multimodal registration includes on multisensory data or images T F
54. Recall is the ratio between non-relevant images to the total number of retrieved images F
55. QBIC is an example of CBIR built based on color and shape features F
56. Radar sensors provide illumination T
57. CBIR systems easily extract features from images T
58. Multispectral images are colored image with very high resolution F
59. Active ^{sensing} ~~sending~~: emitted and reflected radiation is detected and measured T
60. Multitemporal means registering images taken at different times T
61. Optical sensors see through clouds F
62. Frenchman is a high resolution grayscale image T

- Linear or cubic interpolation is used to estimate the mapping model in image registration T
5. Precision and recall is used to measure the performance of CBIR systems T
65. A good fusion is mandatory for a good registration F
66. Passive sensing: sun's energy that is reflected as thermal infrared wavelengths T
67. Edge, corner and blobs are examples of global features F
68. Semantic gap is the problem of finding the meaning between high and low level features T
69. Illumination change is one important factor when evaluating the feature detection performance F
70. Aircrafts and satellites are the major platforms of sensors T
71. Radar images are examples of passive sensing F
72. SURF detector is inspired from SIFT detector T
73. Resampling and transformation is the last step in image registration T
74. OpenCV: a library of programming functions mainly aimed at real-time computer vision T
75. Multi-temporal registration means registering images taken from different views. F
76. Optical images are examples of active sensing process F
77. Huge number of pictures everywhere is one reason for using CBIR system T
78. Random browsing is one possibility in CBIR systems T
79. Image fusion is the process of combining relevant information from two images into a single image
80. Remote sensing is the acquisition of information about an object without physical contact T