SLAM – EX1

Git: https://github.com/Miryam-Schwartz/SLAM/blob/main/VAN_ex/code/ex1.py

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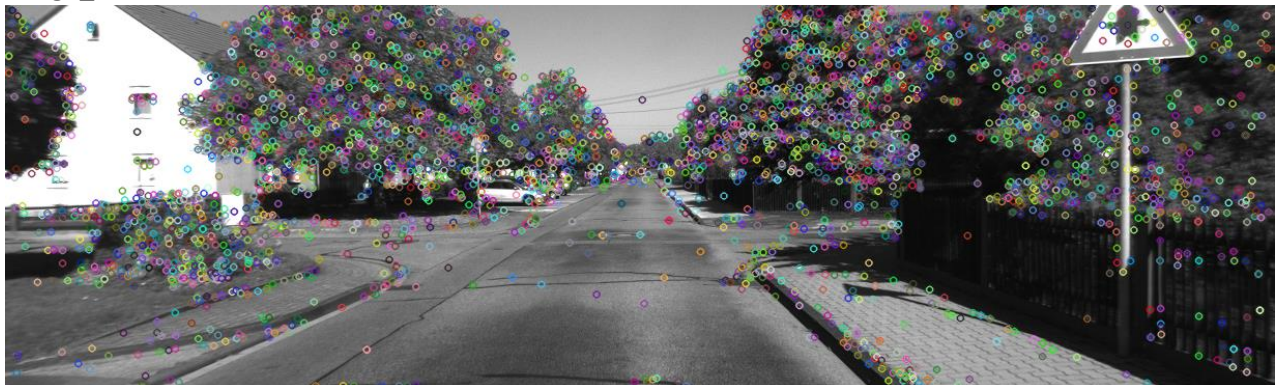Nava Goetschel, nava.goetschel@mail.huji.ac.il

Part 1

1.1. Key-points locations on both images:

image_0:

image_1:

1.2. Descriptors of two first features:

image_0:

```
[ 0.  0.  0.  0.  0.  0.  0.  0.  1.  1.  0.  0.  0.  0.
  0.  0.  7.  7.  0.  0.  3.  1.  0.  0.  1.  1.  0.  0.
 54. 26.  0.  0.  1. 15. 13.  4. 10.  1.  0.  0. 35. 18.
  5.  6. 72.  9.  0.  3. 150. 77.  2.  2. 14.  4.  2. 19.
 12.  6.  1.  4. 150. 68.  1.  3.  1. 57. 95. 24. 33.  3.
  0.  0. 51. 45. 69. 45. 65.  7.  1.  8. 150. 62.  7.  5.
 10. 26. 15. 81. 25.  2.  0.  1. 150. 124. 14. 16.  0. 19.
 22. 19. 66. 18.  1.  0. 28. 57. 59. 59. 17. 10.  1.  1.
 150. 150. 15. 10. 10.  9.  3.  6. 60. 44.  4. 12. 150. 42.
  3.  3.]
[ 0.  0.  5. 32. 133.  6.  4. 12. 115. 75.  5. 20. 112.  7.
  3. 13. 124. 54.  0.  0.  0.  0.  0.  7.  2.  1.  0.  0.
  0.  0.  0.  0.  2. 15. 118. 133. 43.  3.  0.  0. 133. 55.
 35. 23. 44. 12. 12. 100. 127. 11.  0.  0.  0.  0.  0. 78.
  3.  0.  0.  0.  0.  0.  0.  1. 43. 35. 64. 133. 31.  4.
```

0.   1. 133. 94. 23.   4.   0.   0.   0. 28. 113.   6.   0.   0.
  0.   0.   0. 15.   0.   0.   0.   0.   0.   0.   0.   0. 37. 20.
  1. 11. 69. 86.   1.   1. 133. 62.   0.   0.   2.   2.   0.   9.
 21.   3.   0.   0.   0.   0.   0.   1.   0.   0.   0.   0.   0.   0.
  0.   0.]

image_1:

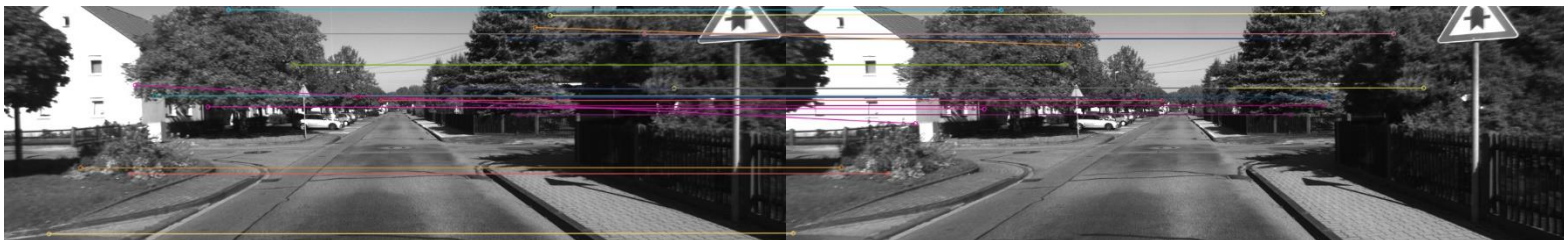[9.   8.   0.   0.   0.   0.   0.   3. 184. 45.   0.   0.   0.   0.
   1. 37. 184. 55.   0.   0.   0.   0.   0. 110. 29.   5.   0.   0.
   0.   0.   0.   9. 25.   0.   0.   0.   0.   1. 19. 65. 184. 48.
   0.   0.   4. 33. 73. 73. 184. 171.   0.   0.   0.   2.   2. 39.
  55. 15.   0.   0.   0.   0.   0.   5. 28.   0.   0.   0.   0.   2.
   9. 41. 74.   2.   0.   0. 15. 47. 37. 48. 184.   7.   0.   0.
   1.   4.   1. 65. 33.   0.   0.   0.   0.   0.   0.   9.   0.   0.
   0.   0.   0.   0.   0.   0.   0.   0.   0.   0.   0.   0.   0.   0.
   0.   0.   0.   0.   0.   0.   0.   0.   0.   0.   0.   0.   0.   0.
   0.   0.]

[22.   4.   1.   1.   4. 37. 14. 13. 149. 10.   0.   0.   1. 11.
  15. 51. 110.   4.   1.   8. 101. 70. 38. 27. 149.   3.   1. 14.
 143. 18.   1. 16. 45. 30. 13. 23. 10.   4.   2.   4. 149. 42.
   6.   6.   3.   1.   2. 51. 121.   7.   2. 19. 118. 25.   7. 35.
 115.   4.   1. 18. 149. 17.   8. 62. 30. 12.   2. 11. 20.   0.
   0.   1. 149. 35.   2.   5.   4.   0.   0.   6. 76.   8.   1. 18.
  24.   3.   3. 32. 30.   0.   0. 20. 149.   6.   5. 66.   0.   0.
   0.   0.   0.   0.   0.   0.   1.   0.   0.   0.   0.   0.   0.   0.
   3.   0.   0.   0.   0.   0.   0.   1.   3.   0.   0.   4. 18.   0.
   0.   2.]

1.3. Random matches (20 matches are presented):

1.4. Using significance test to reject matches:

- "good" matches (20 are presented):

- We used ratio value 0.75
- The number of discarded matches after applying significance test was: 2317

- Correct match that failed the significance test (the following image include 20 random "failed" matches): the pink matching