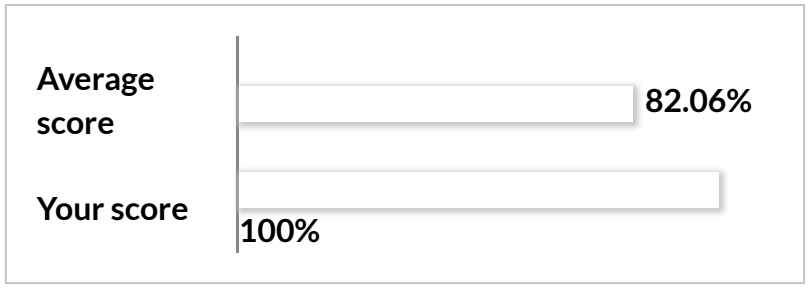
Defining your Similarity Metric Quiz

Results

7 of 7 questions answered correctly

Your time: 00:00:25

You have reached 7 of 7 points, (100%)



Click Here to Continue (https://gurus.pyimagesearch.com/topic/defining-your-similarity-metric/?quiz_type=lesson&quiz_redirect=1&lesson_id=1953&quiz_id=3573)

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1. Question

A distance function/similarity metric is used to:

- Speedup the search process, enabling faster queries.
- Compare the pixel intensities of an image directly.
- Cluster features to determine which images are similar to each other.
- **Determine the "distance" between two feature vectors (and therefore the similarity of two images).**

Correct

2. Question

The following are all required properties of a distance function, *except:*

- Coincidence axiom
- **Positive axiom**
- Triangle inequality
- Non-negativity
- Symmetry

Correct

3. Question

Compute the *Euclidean* distance between the following two feature vectors:

```
A = [0.64, 0.13, 0.41, 0.29, 0.56, 0.99, 0.11, 0.30]
B = [0.18, 0.87, 0.32, 0.71, 0.44, 0.27, 0.02, 0.41]
```

- 1.94
- 2.75

Feedback

- **1.22**
- 0.38

Correct

4. Question

Compute the *Histogram Intersection* distance between the following two feature vectors:

```
A = [0.77, 0.43, 0.96, 0.92, 0.56, 0.65, 0.84, 0.21]
B = [0.04, 0.96, 0.87, 0.98, 0.39, 0.78, 0.67, 0.33]
```

- 0.95
- 1.98
- **4.18**
- 0.97

Correct

5. Question

Compute the *Chi-Squared* distance between the following two feature vectors:

```
A = [0.16, 0.04, 0.12, 0.03, 0.14, 0.17, 0.06, 0.27]
B = [0.08, 0.12, 0.07, 0.13, 0.04, 0.22, 0.27, 0.08]
```

- **0.21**
- 0.29
- 0.57
- 0.34

Feedback

Correct

6. Question

Compute the *Cosine* distance between the following two feature vectors:

```
A = [0.81, 0.84, 0.31, 0.13, 0.96, 0.48, 0.58, 0.65]
B = [0.82, 0.31, 0.50, 0.38, 0.74, 0.59, 0.62, 0.94]
```

- (●) **0.07**
- ( ) 1.63
- ( ) 0.25
- ( ) 0.72

Correct

7. Question

Compute the *Hamming* distance between the following two feature vectors:

```
A = [1, 1, 0, 1, 0, 1, 0, 1]
B = [0, 0, 0, 0, 0, 0, 0, 1]
```

- ( ) 0.55
- ( ) 0.80
- ( ) 2.0
- (●) **0.5**

Correct

Feedback

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Resources & Links

- PyImageSearch Gurus Community (https://community.pyimagesearch.com/)
- PyImageSearch Virtual Machine (https://gurus.pyimagesearch.com/pyimagesearch-virtual-machine/)
- Setting up your own Python + OpenCV environment (https://gurus.pyimagesearch.com/setting-up-your-python-opencv-development-environment/)
- Course Syllabus & Content Release Schedule (https://gurus.pyimagesearch.com/course-syllabus-content-release-schedule/)
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- Official OpenCV documentation (http://docs.opencv.org/index.html)

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