# Video Analysis

Quiz, 8 questions

1 point

1.

Calculate the number of 25 fps FullHD RGB video channels that can be simultaneously streamed through the 1 Gbit Ethernet LAN with 10x video compression ratio. Round the answer down to nearest integer

*Hint: Calculate the throughput of 1 Gbit LAN and size of FullHD*

8

---

1 point

2.

Which of these metrics may serve as performance measures for optical flow estimation?

- [ ] Average Precision
- [ ] Correlation between two vectors
- [x] Angular Error
- [x] Endpoint Error
- [ ] Detection Error Tradeoff curve

---

1 point

3.

Calculate Endpoint Error for two motion vector: Ground Truth = [1,1], Estimated = [2,0]. Specify 3 digits after comma.

1.414

---

# Video Analysis

Quiz, 8 questions

1 point

4.

In visual object tracking task, what does Equivalent Filter Operations metric measure?

- The number of feature maps required to produce an appropriate robustness for the tracker
- The number of convolutions required to achieve a specified tracking quality
- The time required for tracking algorithm to run compared to the time required for image filtering operation to run

---

1 point

5.

Which of these are types of errors that a multiple object tracker can suffer?

- [ ] False acceptance error
- [ ] False coverage error
- [x] False negative error
- [ ] Mean absolute error
- [x] False positive error
- [x] ID switch

---

1 point

6.

Compute MOTA score for a multiple object tracking method, which produces 530 detections, 50 false positive errors, 20 false negative errors, 30 ID switches on a dataset with 200 frames and 500 ground truth detections and 300 trajectories? Use at most one decimal precision places.

0.8

---

1 point

7.

What is the effect of using re-identification on the tracking errors in multiple-object tracking methods?

- [x] False negatives are decreased
- [x] Number of Mostly Tracked is increased
- [ ] Number of Mostly Lost is increased
- [ ] False positives are decreased
- [x] ID switches are reduced

1 point

8.

Select correct statements regarding action classification.

- [ ] In dense trajectories with CNN features, point neighbourhoods are cropped from frames along the trajectory, concatenated into space-time volume along the trajectory, and then supplied to CNN for feature computation.
- [ ] It is easy for convolutional neural network to extract and use motion information automatically, when applied to whole video volume.
- [x] By explicit consideration of motion information in form of optical flow maps, point and keypoint trajectories, we can currently improve the performance of action recognition.
- [x] To localize actions in videos we usually detect and track relevant objects first, and then apply action classification in a temporal window along the track.

I, **Jiadai Zhao**, understand that submitting work that isn't my own may result in permanent failure of this course or deactivation of my Coursera account.

Learn more about Coursera's Honor Code

Submit Quiz

# Video Analysis

Quiz, 8 questions