

←

Lesson 6 Quiz

Quiz, 4 questions

1

point

1.

Which of the following measures can be used as external measures for clustering validation? Select all that apply.

- ☐ Silhouette coefficient
- ☐ Purity
- ☐ Beta-CV measure
- ☐ Normalized cut
- ☐ F-measure

1

point

2.

The following table summarizes the clustering results of a newly designed algorithm where  $C_1$ ,  $C_2$ , and  $C_3$  denote the clusters, while  $T_1$ ,  $T_2$ , and  $T_3$  are ground truth. Based on the table , calculate the purity of the clustering algorithm.

| $C \backslash T$ | $T_1$ | $T_2$ | $T_3$ | Sum |
|------------------|-------|-------|-------|-----|
| $C_1$            | 20    | 30    | 10    | 60  |
| $C_2$            | 30    | 40    | 10    | 80  |
| $C_3$            | 0     | 0     | 60    | 60  |
| $m_j$            | 50    | 70    | 80    | 200 |

- ☐ 0.65
- ☐ 0.6
- ☐ 0.667
- ☐ 1
- ☐ 0.35

$30+40+60/200 = 0.65$

1

point

3.

The following table summarizes the clustering results of a newly designed algorithm where  $C_1$ ,  $C_2$ , and  $C_3$  denote the clusters, while  $T_1$ ,  $T_2$ , and  $T_3$  are ground truth. Based on the table, calculate the maximum matching score of the clustering algorithm.

| $C \backslash T$ | $T_1$ | $T_2$ | $T_3$ | Sum |
|------------------|-------|-------|-------|-----|
| $C_1$            | 20    | 30    | 10    | 60  |
| $C_2$            | 30    | 40    | 10    | 80  |
| $C_3$            | 0     | 0     | 60    | 60  |
| $m_j$            | 50    | 70    | 80    | 200 |

$20(C1-T1)+40(C2-T2)+60(C3-T3) / 200 = 0.6$

- ☐ 0.65
- ☐ 0.6

←

0.667

Lesson 6 Quiz

Quiz, 4 questions

0.35

1 point

4.  
The following table summarizes the clustering results of a newly designed algorithm where  $C_1$ , and  $C_2$  denote the clusters, while  $T_1$ , and  $T_2$  are ground truth. Which of the following statements are correct? Select all that apply.

| C/T   | $T_1$ | $T_2$ | Sum |
|-------|-------|-------|-----|
| $C_1$ | 9     | 1     | 10  |
| $C_2$ | 2     | 8     | 10  |
| $m_i$ | 11    | 9     | 20  |

wrong

- ☐

The true positive is 65.
- ☐

The true positive is 64.
- ☐

The true negative is 64.
- ☐

The true negative is 65.
- combination of 9 take 2 + combination of 8 take 2  
=  $9!/(2!)*7! + 8!/2!*6!$

☒ I, **Yuhui Chou**, 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

