

HW3

Submission date: 14.12

Ex1

- a. In this exercise, you will implement an NDCG measure.

Implement a function *my_ndcg* which calculates the **normalized** discounted cumulative gain as presented in the lecture.

Input:

- *true_relevance*,
 - Ground-truth relevance ranks
 - **type:** ndarray [# samples, 1]
- *pred_score*,
 - Predicted score for ranks
 - **type:** ndarray [# samples, 1]
- *K*
 - Number of highest scores to include in the calculation (k-highest ranks).
 - **type:** int

Output:

- *ndcg*,
 - NDCG score at k
 - **type:** float [0,1]

b. Test Yourself:

Add the following tests to the HW notebook:

- Input1:
 - `true_relevance = np.asarray([[10, 0, 0, 1, 5]]),`
 - `pred_score= np.asarray([[.05, 1.1, 1., .5, .0]])`
 - `k=5`
- *expected output1: 0.49*

- Input2:
 - `true_relevance = np.asarray([[10, 0, 0, 1, 5]])`
`pred_score= np.asarray([[1, 0, 0, 0, 1]])`
 - $k=1$
- *expected output2: 0.75*

Submission guidelines:

1. Submit a .ipynb file with your solution.
2. Add a text block in the beginning of your notebook with your IDs.
3. For any questions regarding this homework, contact Bar.