Task8

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Artificial Intelligence for the Web, VT21
DT506A

Februari 2021

When it comes to evaluating the hits from a search query, what is called P@k, which stands for Precision of k, can be used. For this task what is called R-precision is what i going to analyze when P@R = 100 % . To calculate this, R-precision requires knowing all documents that are relevant to a query.Let's take an example where, given the following search query Nawar Saeedänd let's get a relevant list of documents like [2,3,5,9,10]. Let's assume that the result list for this query looks like this. The relevant saturation looks like P@k = P@R, where k is the number of relevant documents which is 5 in this case. To make P@R = 100% , the result list must contain all relevant document ids in its first 5 indexes as in the relevant list where the order does not play a big role.

Taking an example:

$$\textit{Search query}: \qquad \textit{Nawar Saeed}$$

$$\textit{Relevant list}: \qquad [2, 3, 5, 9, 10]$$

AS the Relevant list obtains, there are 5 relevant documents. This means that somehow the precision at the fifth element it the result list must be 100%, P@5= 100%. Let's assume that x = an element from the relevant list. The result list has to be as following:

$$\textit{Results list}: \qquad [x, x, x, x, x, ...]$$

For instance, the results list can be:

$$\textit{Results list}: \qquad [10, 2, 3, 9, 5, ...]$$

$$P@1 = \frac{1}{1} = 100\%$$

$$P@2 = \frac{2}{2} = 100\%$$

$$P@3 = \frac{3}{3} = 100\%$$

$$P@4 = \frac{4}{4} = 100\%$$

$$P@5 = \frac{5}{5} = 100\% \qquad P@R = 100\%$$