

COMP318: Ontology alignment

www.csc.liv.ac.uk/~valli/Comp318

Dr Valentina Tamma

Room: Ashton 2.12

Dept of computer science
University of Liverpool

V.Tamma@liverpool.ac.uk



based on slides by V. Tamma, T.R. Payne, J. Euzenat, K. Janowicz and G. Schreiber

Exercise

- Let us consider an ontology alignment system, A.

Let us assume we also have a gold standard alignment handcrafted by an expert R composed by 20 correspondences.

- A returns 8 relevant correspondences and 10 non relevant ones.
- Calculate precision, recall and F-measure

Precision

$$\text{Prec}(A_i, R) = \frac{|A_i \cap R|}{|A_i|}$$

Recall

$$\text{Rec}(A_i, R) = \frac{|A_i \cap R|}{|R|}$$

F-measure

$$F_{\text{measure}}(A_i, R) = 2 \times \frac{\text{Prec}(A_i, R) \times \text{Rec}(A_i, R)}{\text{Prec}(A_i, R) + \text{Rec}(A_i, R)}$$

Exercise

- A manually constructed gold standard alignment R between ontology O and O' is composed of 38 correspondences. Let us assume that we need to compare two alignment systems:
 - System A_1 generates 22 correspondences, 18 of which are present in R ;
 - System A_2 generates 14 correspondences, 12 of which are present in R .
- Calculate precision and recall for the two systems. Can we use either measure in isolation to evaluate the alignment systems?

Precision

$$\text{Prec}(A_i, R) = \frac{|A_i \cap R|}{|A_i|}$$

Recall

$$\text{Rec}(A_i, R) = \frac{|A_i \cap R|}{|R|}$$

F-measure

$$F_{\text{measure}}(A_i, R) = 2 \times \frac{\text{Prec}(A_i, R) \times \text{Rec}(A_i, R)}{\text{Prec}(A_i, R) + \text{Rec}(A_i, R)}$$