

ABSTRACT: Despite serious research efforts, automatic ontology matching still suffers from severe problems with respect to the quality of matching results. Existing matching systems trade-off precision and recall and have their specific strengths and weaknesses. This leads to problems when the right matcher for a given task has to be selected. In this paper, we present a method for improving matching results by not choosing a specific matcher but applying machine learning techniques on an ensemble of matchers. Hereby we learn rules for the correctness of a correspondence based on the output of different matchers and additional information about the nature of the elements to be matched, thus leveraging the weaknesses of an individual matcher. We show that our method always performs significantly better than the median of the matchers used and in most cases outperforms the best matcher with an optimal threshold for a given pair of ontologies. As a side product of our experiments, we discovered that the majority vote is a simple but powerful heuristic for combining matchers that almost reaches the quality of our learning results.