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LogMap Family Participation in the OAEI 2024

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Abstract

We present the participation of LogMap and its variants in the OAEI 2024 campaign. The LogMap project started in January 2011 with the objective of developing a scalable and logic-based ontology matching system.

1. Presentation of the system

LogMap [1, 2] is an ontology matching system that (i) can efficiently match semantically rich ontologies containing tens (and even hundreds) of thousands of classes, (ii) incorporates sophisticated reasoning and repair techniques to minimise the number of logical inconsistencies [3], and (iii) provides support for user intervention during the matching process [4]. LogMap ISWC 2011 paper [1] was awarded the SWSA Ten-Year Award.¹

1.1. LogMap variants in the 2024 campaign

As in previous campaigns, in the OAEI 2023 we have participated with two additional variants:

LogMapLt is a “lightweight” variant of LogMap, which essentially only applies (efficient) string matching techniques.

LogMapBio includes an extension to use BioPortal [5] as a (dynamic) provider of mediating ontologies instead of relying on a few preselected ontologies [6].

The OAEI results also report about LogMap-KG, which is the same as LogMap but with the flag to output instance mappings activated.

1.2. Link to the system and parameters file


LogMap is open-source and released under the Apache-2.0 License.² LogMap components and source code are available from the LogMap's GitHub page: <https://github.com/ernestojimenezruiz/logmap-matcher/>.

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¹<http://swsa.semanticweb.org/content/swsa-ten-year-award>

²<http://www.apache.org/licenses/>

LogMap distributions can be easily customized through a configuration file containing the matching parameters.

1.3. Results

Please refer to <http://oaei.ontologymatching.org/2024/results/> for the results of the LogMap family in the OAEI 2024 campaign. It is worth mentioning that LogMap-Bio was one of the top systems in the Bio-ML track [7, 8], surpassing more sophisticated systems relying on machine learning and large language model techniques.

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