



City Research Online

City St George's, University of London

Citation: Jiménez-Ruiz, E. (2025). LogMap Family Participation in the OAEI 2024. CEUR Workshop Proceedings, 3897, pp. 161-162. ISSN 1613-0073

This is the published version of the paper.

This version of the publication may differ from the final published version. To cite this item please consult the publisher's version.

Permanent repository link: <https://openaccess.city.ac.uk/id/eprint/34751/>

Copyright and Reuse: Copyright and Moral Rights remain with the author(s) and/or copyright holders. Copies of full items can be used for personal research or study, educational, or not-for-profit purposes without prior permission or charge, unless otherwise indicated, provided that the authors, title and full bibliographic details are credited, a hyperlink and/or URL is given for the original metadata page and the content is not changed in any way. For full details of reuse please refer to [City Research Online policy](#).

LogMap Family Participation in the OAEI 2024

Ernesto Jiménez-Ruiz

¹*Department of Computer Science, City St George's, University of London, UK*

²*Department of Informatics, University of Oslo, Oslo, Norway*

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/>.

OM 2024: The 19th International Workshop on Ontology Matching collocated with the 23rd International Semantic Web Conference ISWC-2024 November 11th, 2024, Baltimore, USA

✉ ernesto.jimenez-ruiz@city.ac.uk (E. Jiménez-Ruiz)

🌐 <https://www.city.ac.uk/about/people/academics/ernesto-jimenez-ruiz> (E. Jiménez-Ruiz)

🆔 0000-0002-9083-4599 (E. Jiménez-Ruiz)

 © 2024 Copyright for this paper by its authors. Use permitted under Creative Commons License Attribution 4.0 International (CC BY 4.0).

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.

Acknowledgments

I would like to thank Bernardo Cuenca-Grau, Ian Horrocks, Alessandro Solimando, Jiaoyan Chen, Valerie Cross, Anton Morant, Yujiao Zhou, Weiguo Xia, Xi Chen, Yuan Gong, Shuo Zhang and Rob Upson, who have contributed to the LogMap project in the past.

References

- [1] E. Jiménez-Ruiz, B. Cuenca Grau, LogMap: Logic-based and Scalable Ontology Matching, in: *Int'l Sem. Web Conf. (ISWC)*, 2011, pp. 273–288.
- [2] E. Jiménez-Ruiz, B. Cuenca Grau, Y. Zhou, I. Horrocks, Large-scale interactive ontology matching: Algorithms and implementation, in: *Europ. Conf. on Artif. Intell. (ECAI)*, 2012.
- [3] A. Solimando, E. Jiménez-Ruiz, G. Guerrini, Minimizing conservativity violations in ontology alignments: Algorithms and evaluation, *Knowledge and Information Systems* (2016).
- [4] H. Li, Z. Dragisic, D. Faria, V. Ivanova, E. Jiménez-Ruiz, P. Lambrix, C. Pesquita, User validation in ontology alignment: functional assessment and impact, *Knowl. Eng. Rev.* 34 (2019) e15.
- [5] N. Fridman Noy, N. H. Shah, P. L. Whetzel, B. Dai, et al., BioPortal: ontologies and integrated data resources at the click of a mouse, *Nucleic Acids Research* 37 (2009) 170–173.
- [6] X. Chen, W. Xia, E. Jiménez-Ruiz, V. Cross, Extending an ontology alignment system with bioportal: a preliminary analysis, in: *Poster at Int'l Sem. Web Conf. (ISWC)*, 2014.
- [7] Y. He, J. Chen, H. Dong, E. Jiménez-Ruiz, A. Hadian, I. Horrocks, Machine Learning-Friendly Biomedical Datasets for Equivalence and Subsumption Ontology Matching, in: *21st International Semantic Web Conference*, 2022.
- [8] Y. He, J. Chen, H. Dong, E. Jiménez-Ruiz, A. Hadian, I. Horrocks, Bio-ML: Machine Learning-Friendly Biomedical Datasets for Equivalence and Subsumption Ontology Matching (Version OAEI Bio-ML 2023), 2023. URL: <https://doi.org/10.5281/zenodo.8193375>.