

Ontology Matching

OM-2025

Proceedings of the 20th International Workshop on Ontology Matching

Introduction

Ontology matching¹ is a key interoperability enabler for the semantic web, as well as a useful tactic in some classical data integration tasks dealing with the semantic heterogeneity problem. It takes ontologies as input and determines as output an alignment, that is, a set of correspondences between the semantically related entities of those ontologies. These correspondences can be used for various tasks, such as ontology merging, data interlinking, query answering or navigation over knowledge graphs. Thus, matching ontologies enables the knowledge and data expressed with the matched ontologies to interoperate.

The workshop had three goals:

- To bring together leaders from *academia*, *industry* and *user institutions* to assess how research advances are addressing real-world requirements. The workshop strives to improve academic awareness of industrial and final user needs, and therefore, direct research towards those needs. Simultaneously, the workshop serves to inform industry and user representatives about existing research efforts that may meet their requirements. The workshop also investigates how the ontology matching technology is going to evolve.
- To conduct an extensive and rigorous evaluation of ontology matching, instance matching (link discovery), and tabular data to knowledge graph matching approaches through the OAEI (Ontology Alignment Evaluation Initiative) 2025 campaign² and the SemTab 2025 Challenge³.
- To examine similarities and differences from other, old, new and emerging, techniques and usages, such as process matching, web table and knowledge graph matching tasks or knowledge embeddings.

The program committee selected 9 submissions (5 long papers, 3 short papers, and 1 poster paper) for the presentation during the workshop. 20 matching systems participated in this year's OAEI campaign. There are 12 papers presenting system results from participating in the OAEI, and 1 paper presenting the synthesis of the evaluation results of all the tracks organized within the OAEI campaign. This year's proceedings also include the SemTab 2025 results and three system papers, underscoring the growing interest in how large language model (LLM)-driven reasoning, retrieval, and disambiguation can complement traditional matching techniques.

Further information about the Ontology Matching workshop can be found at: om.ontologymatching.org/2025.

¹ontologymatching.org

²oaei.ontologymatching.org/2025/

³sem-tab-challenge.github.io/2025/

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⁴trentinodigitale.it

⁵dwslab.github.io/melt

⁶pistoiaalliance.org/projects/current-projects/ontologies-mapping

⁷mn.uio.no/sirius

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