

Ontology Matching

OM-2017

Proceedings of the ISWC Workshop

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 translation, query answering or navigation on the web of data. Thus, matching ontologies enables the knowledge and data expressed with the matched ontologies to interoperate.

The workshop has three goals:

- To bring together leaders from *academia*, *industry* and *user institutions* to assess how academic 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 investigated how the ontology matching technology is going to evolve.
- To conduct an extensive and rigorous evaluation of ontology matching and instance matching (link discovery) approaches through the OAEI (Ontology Alignment Evaluation Initiative) 2017 campaign². Besides real-world specific matching tasks, such as the disease-phenotype track supported by the Pistoia Alliance, IBM Research sponsored the instance matching related tracks this year. Therefore, the ontology matching evaluation initiative itself provided a solid ground for discussion of how well the current approaches are meeting business needs.
- To examine new uses, similarities and differences from database schema matching, which has received decades of attention but is just beginning to transition to mainstream tools, or the emerging process matching task.

The program committee selected 5 submissions for oral presentation and 10 submissions for poster presentation. 21 matching systems participated in this year's OAEI campaign. Further information about the Ontology Matching workshop can be found at: <http://om2017.ontologymatching.org/>.

¹<http://www.ontologymatching.org/>

²<http://oaei.ontologymatching.org/2017>

Acknowledgments. We thank all members of the program committee, authors and local organizers for their efforts. We appreciate support from the Trentino as a Lab³ initiative of the European Network of the Living Labs⁴ at Informatica Trentina⁵, the EU SEALS (Semantic Evaluation at Large Scale) project⁶, the EU HOBBIT (Holistic Benchmarking of Big Linked Data) project⁷, the Pistoia Alliance Ontologies Mapping project⁸ and IBM Research⁹.



Pavel Shvaiko
Jérôme Euzenat
Ernesto Jiménez-Ruiz
Michelle Cheatham
Oktie Hassanzadeh

December 2017

³<http://www.taslab.eu>

⁴<http://www.openlivinglabs.eu>

⁵<http://www.infotn.it>

⁶www.seals-project.eu

⁷<https://project-hobbit.eu/challenges/om2017/>

⁸<http://www.pistoiaalliance.org/projects/ontologies-mapping/>

⁹http://oaei.ontologymatching.org/2017/ibm_prize.html

Organization

Organizing Committee

Pavel Shvaiko, Informatica Trentina SpA, Italy
Jérôme Euzenat, INRIA & University Grenoble Alpes, France
Ernesto Jiménez-Ruiz, University of Oslo, Norway
Michelle Cheatham, Wright State University, USA
Oktie Hassanzadeh, IBM Research, USA

Program Committee

Alsayed Algergawy, Jena University, Germany
Manuel Atencia, University Grenoble Alpes & INRIA, France
Zohra Bellahsene, LRIMM, France
Olivier Bodenreider, National Library of Medicine, USA
Marco Combetto, Informatica Trentina, Italy
Valerie Cross, Miami University, USA
Warith Eddine Djeddi, LIPAH & LABGED, Tunisia
Jérôme David, University Grenoble Alpes & INRIA, France
Gayo Diallo, University of Bordeaux, France
Zlatan Dragisic, Linköpings Universitet, Sweden
Alfio Ferrara, University of Milan, Italy
Wei Hu, Nanjing University, China
Antoine Isaac, Vrije Universiteit Amsterdam & Europeana, Netherlands
Valentina Ivanova, Linköpings Universitet, Sweden
Ryutaro Ichise, National Institute of Informatics, Japan
Daniel Faria, Instituto Gulbenkian de Ciência, Portugal
Patrick Lambrix, Linköpings Universitet, Sweden
Juanzi Li, Tsinghua University, China
Vincenzo Maltese, University of Trento, Italy
Fiona McNeill, University of Edinburgh, UK
Andriy Nikolov, Open University, UK
Axel Ngonga, University of Leipzig, Germany
Catia Pesquita, University of Lisbon, Portugal
Dominique Ritze, University of Mannheim, Germany
Umberto Straccia, ISTI-C.N.R., Italy
Ondřej Zamazal, Prague University of Economics, Czech Republic
Cássia Trojahn, IRIT, France
Ludger van Elst, DFKI, Germany

Table of Contents

Technical Papers

A high-performance approach to string similarity using most frequent K characters <i>Andre Valdestilhas, Tommaso Soru, Axel-Cyrille Ngonga Ngomo</i>	1
Semantic interactive ontology matching: synergistic combination of techniques to improve the set of candidate correspondences <i>Jomar da Silva, Fernanda Baião, Kate Revoredo, Jérôme Euzenat</i>	13
Exploring the synergies between biocuration and ontology alignment automation <i>David Dearing, Terrance Goan</i>	25
Ontology matching for patent classification <i>Christoph Quix, Sandra Geisler, Rihan Hai, Sanchit Alekh</i>	37
Extension of the M-Gov ontology mapping framework for increased traceability <i>Anuj Singh, Christophe Debruyne, Rob Brennan, Alan Meehan, Declan O’Sullivan</i>	49

OAEI Papers

Results of the Ontology Alignment Evaluation Initiative 2017 <i>Manel Achichi, Michelle Cheatham, Zlatan Dragisic, Jérôme Euzenat, Daniel Faria, Alfio Ferrara, Giorgos Flouris, Iri Fundulaki, Ian Harrow, Valentina Ivanova, Ernesto Jiménez-Ruiz, Kristian Kolthoff, Elena Kuss, Patrick Lambrix, Henrik Leopold, Huanyu Li, Christian Meilicke, Majid Mohammadi, Stefano Montanelli, Catia Pesquita, Tzanina Saveta, Pavel Shvaiko, Andrea Splendiani, Heiner Stuckenschmidt, Élodie Thiéblin, Konstantin Todorov, Cássia Trojahn, Ondřej Zamazal</i>	61
ALIN results for OAEI 2017 <i>Jomar da Silva, Fernanda Baião, Kate Revoredo</i>	114
Results of AML in OAEI 2017 <i>Daniel Faria, Booma S. Balasubramani, Vivek Shivaprabhu, Isabela Mott, Catia Pesquita, Francisco Couto, Isabel Cruz</i>	122
CroLOM results for OAEI 2017: summary of cross-lingual ontology matching systems results at OAEI <i>Abderrahmane Khat</i>	129
I-Match and OntoIdea results for OAEI 2017 <i>Abderrahmane Khat, Maximilian Mackeprang</i>	135
OAEI 2017 results of KEPLER <i>Marouen Kachroudi, Gayo Diallo, Sadok Ben Yahia</i>	138
Legato results for OAEI 2017 <i>Manel Achichi, Zohra Bellahsene, Konstantin Todorov</i>	146
LogMap family participation in the OAEI 2017 <i>Ernesto Jiménez-Ruiz, Bernardo Cuenca Grau, Valerie Cross</i>	153
njuLink: results for instance matching at OAEI 2017 <i>Xinze Lyu, Qingheng Zhang, Wei Hu, Zequn Sun, Yuzhong Qu</i>	158
ONTMAT: results for OAEI 2017 <i>Saida Gherbi, Mohamed Tarek Khadir</i>	166
POMap results for OAEI 2017 <i>Amir Laadhar, Faiza Ghozzi, Imen Megdiche, Franck Ravat, Olivier Teste, Faiez Gargouri</i>	171
Radon results for OAEI 2017 <i>Kevin Dreßler, Mohamed Ahmed Sherif, Axel Ngonga</i>	178
SANOM results for OAEI 2017 <i>Majid Mohammadi, Amir Atashin, Wout Hofman, Yao-Hua Tan</i>	185

WikiV3 results for OAEI 2017	
<i>Sven Hertling</i>	190
XMap results for OAEI 2017	
<i>Warith Eddine Djeddi, Mohamed Tarek Khadir, Sadok Ben Yahia</i>	196
YAM-BIO: results for OAEI 2017	
<i>Amina Annane, Zohra Bellahsene, Faical Azouaou, Clement Jonquet</i>	201

Posters

Towards building a link set backed by domain experts using the alignment tool <i>Ondřej Zamazal, Sotirios Karampatakis, Charalampos Bratsas</i>	207
HOBBIT link discovery benchmarks at ontology matching 2017 <i>Michael Röder, Tzanina Saveta, Irimi Fundulaki, Axel-Cyrille Ngonga Ngomo</i>	209
Alignment: a collaborative, system aided, interactive ontology matching platform <i>Sotirios Karampatakis, Charalampos Bratsas, Ondřej Zamazal, Panagiotis Marios Filippidis, Ioannis Antoniou</i>	211
Boosting MultiFarm track with Turkish dataset <i>Abderrahmane Khat, Beyza Yaman, Giovanna Guerrini, Ernesto Jiménez-Ruiz, Naouel Karam</i>	213
A replication study: understanding what drives the performance in WikiMatch <i>Lu Zhou, Michelle Cheatham</i>	215
Towards a complex alignment evaluation dataset <i>Élodie Thiéblin, Ollivier Haemmerlé, Nathalie Hernandez, Cássia Trojahn</i>	217
On partitioning for ontology alignment <i>Sunny Pereira, Valerie Cross, Ernesto Jiménez-Ruiz</i>	219
Paving a research roadmap on network of ontologies <i>Fábio Santos, Kate Revoredo, Fernanda Baião</i>	221
Using word semantics on entity names for correspondence set generation <i>Rafael Vieira, Kate Revoredo</i>	223
Matching domain and top-level ontologies via OntoWordNet <i>Daniela Schmidt, Rafael Basso, Cássia Trojahn, Renata Vieira</i>	225