

List of Publications

Michael Cochez

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A bibtex file with all my work can be found from
<http://users.jyu.fi/~miselico/papers/refs.bib>

Peer reviewed book chapters, conference and journal papers.

1. Ruijie Wang, Meng Wang, Jun Liu, Weitong Chen, *Michael Cochez*, and Stefan Decker. Leveraging knowledge graph embeddings for natural language question answering. In Guoliang Li, Jun Yang, Joao Gama, Jugapong Natwichai, and Yongxin Tong, editors, *Database Systems for Advanced Applications*, pages 659–675, Cham, 2019. Springer International Publishing. ISBN 978-3-030-18576-3
2. *Michael Cochez*, Martina Garofalo, Jérôme Lenßen, and Maria Angela Pellegrino. A first experiment on including text literals in kglove. *arXiv preprint submitted*, 2018b. URL <http://users.jyu.fi/~miselico/papers/literalsForEmbeddings.pdf>. Accepted for presentation at the 4th Workshop on Semantic Deep Learning (SemDeep-4)
3. Svitlana Vakulenko, Maarten de Rijke, *Michael Cochez*, Vadim Savenkov, and Axel Polleres. Measuring semantic coherence of a conversation. *arXiv preprint arXiv:1806.06411*, 2018. URL http://users.jyu.fi/~miselico/papers/semantic_coherence.pdf. Accepted for presentation and inclusion in the proceedings at ISWC 2018
4. Andrei Ionita, André Pomp, *Michael Cochez*, Tobias Meisen, and Stefan Decker. Where to park?: Predicting free parking spots in unmonitored city areas. In *Proceedings of the 8th International Conference on Web Intelligence, Mining and Semantics*, WIMS '18, pages 22:1–22:12, New York, NY, USA, 2018. ACM. ISBN 978-1-4503-5489-9. doi: 10.1145/3227609.3227648. URL http://users.jyu.fi/~miselico/papers/parking_paper.pdf
5. Md Rezaul Karim, *Michael Cochez*, Oya Deniz Beyan, Chowdhury Farhan Ahmed, and Stefan Decker. Mining maximal frequent patterns in transactional databases and dynamic data streams: A Spark-based approach. *Information Sciences*, 432:278–300, 2018

6. Md. Rezaul Karim, Matthias Heinrichs, Lars C. Gleim, *Michael Cochez*, and others. Towards a FAIR sharing of scientific experiments: Improving discoverability and reusability of dielectric measurements of biological tissues. In *SWAT4HCLS*, 2017. URL http://www.swat4ls.org/wp-content/uploads/2017/11/SWAT4LS-2017_paper_11.pdf
7. *Michael Cochez*, Petar Ristoski, Simone Paolo Ponzetto, and Heiko Paulheim. Global RDF vector space embeddings. In Claudia d’Amato, Miriam Fernandez, and others, editors, *The Semantic Web – ISWC 2017: 16th International Semantic Web Conference, Vienna, Austria, October 21–25, 2017, Proceedings, Part I*, pages 190–207. Springer International Publishing, Cham, 2017d. ISBN 978-3-319-68288-4. doi: 10.1007/978-3-319-68288-4_12. URL <http://users.jyu.fi/~miselico/papers/GlobalRDFEmbedding.pdf>
8. *Michael Cochez*, Dominik Hüser, and Stefan Decker. The future of the semantic web: Prototypes on a global distributed filesystem. In *2017 IEEE 37th International Conference on Distributed Computing Systems (ICDCS)*, pages 1997–2006, June 2017a. doi: 10.1109/ICDCS.2017.270
9. *Michael Cochez*, Petar Ristoski, Simone Paolo Ponzetto, and Heiko Paulheim. Biased graph walks for RDF graph embeddings. In *Proceedings of the 7th International Conference on Web Intelligence, Mining and Semantics, WIMS ’17*, pages 21:1–21:12, New York, NY, USA, 2017c. ACM. ISBN 978-1-4503-5225-3. doi: 10.1145/3102254.3102279. URL <http://users.jyu.fi/~miselico/papers/biasedGraphWalks.pdf>
10. *Michael Cochez*, Jacques Periaux, Vagan Terziyan, and Tero Tuovinen. Agile deep learning uavs operating in smart spaces: Collective intelligence versus “mission-impossible”. In Pedro Diez, Pekka Neittaanmäki, Jacques Periaux, Tero Tuovinen, and Olli Bräysy, editors, *Computational Methods and Models for Transport: New Challenges for the Greening of Transport Systems*, pages 31–53. Springer International Publishing, Cham, 2018c. ISBN 978-3-319-54490-8. doi: 10.1007/978-3-319-54490-8_3. URL https://doi.org/10.1007/978-3-319-54490-8_3. first online 2017
11. *Michael Cochez*, Vagan Terziyan, and Vadim Ermolayev. Large scale knowledge matching with balanced efficiency-effectiveness using LSH forest. In Ngoc Thanh Nguyen, Ryszard Kowalczyk, Alexandre Miguel Pinto, and Jorge Cardoso, editors, *Transactions on Computational Collective Intelligence XXVI*, pages 46–66. Springer International Publishing, Cham, 2017e. ISBN 978-3-319-59268-8. doi: 10.1007/978-3-319-59268-8_3. URL <http://users.jyu.fi/~miselico/papers/KnowledgeMatchingLSHForest.pdf>
12. Vagan Terziyan, Mariia Golovianko, and *Michael Cochez*. Tb-structure: Collective intelligence for exploratory keyword search. In *Semantic Keyword-Based Search on Structured Data Sources: COST Action IC1302 Second International KEYSTONE Conference, IKC 2016, Cluj-Napoca, Romania, September 8–9, 2016, Revised Selected Papers*, pages 171–178. Springer International Publishing, Cham, 2017. ISBN 978-3-319-53640-8. doi: 10.1007/978-3-319-53640-8_15. URL <http://users.jyu.fi/~miselico/papers/IKC-2016.pdf>

13. Bushra Zafar, *Michael Cochez*, and Usman Qamar. Using distributional semantics for automatic taxonomy induction. In *2016 International Conference on Frontiers of Information Technology (FIT)*, pages 348–353, Dec 2016. doi: 10.1109/FIT.2016.070. URL <http://users.jyu.fi/~miselico/papers/distributional-semantics-taxonomy.pdf>
14. *Michael Cochez*, Stefan Decker, and Eric Prud’hommeaux. Knowledge representation on the web revisited: The case for prototypes. In *The Semantic Web – ISWC 2016: 15th International Semantic Web Conference, Kobe, Japan, October 17–21, 2016, Proceedings, Part I*, pages 151–166. Springer International Publishing, Cham, 2016a. ISBN 978-3-319-46523-4. doi: 10.1007/978-3-319-46523-4_10. URL <http://users.jyu.fi/~miselico/papers/knowledge-representation-prototypes.pdf>
15. *Michael Cochez* and Ferrante Neri. Scalable hierarchical clustering: Twister tries with a posteriori trie elimination. In *Computational Intelligence, 2015 IEEE Symposium Series on*, pages 756–763. IEEE, Dec 2015. doi: 10.1109/SSCI.2015.12. URL http://users.jyu.fi/~miselico/papers/TT_aposteriori_elimination.pdf
16. *Michael Cochez*, Vagan Terziyan, and Vadim Ermolayev. Balanced large scale knowledge matching using LSH forest. In Jorge Cardoso, Francesco Guerra, Geert-Jan Houben, Miguel Alexandre Pinto, and Yannis Velegrakis, editors, *Semantic Keyword-based Search on Structured Data Sources: First COST Action IC1302 International KEYSTONE Conference, IKC 2015, Coimbra, Portugal, September 8-9, 2015. Revised Selected Papers*, volume 9398 of *Lecture Notes in Computer Science*, pages 36–50. Springer International Publishing, 2015. ISBN 978-3-319-27932-9. doi: 10.1007/978-3-319-27932-9_4. URL http://users.jyu.fi/~miselico/papers/balanced_knowledge_matching.pdf
17. *Michael Cochez* and Hao Mou. Twister tries: Approximate hierarchical agglomerative clustering for average distance in linear time. In *Proceedings of the 2015 ACM SIGMOD international conference on Management of data*, SIGMOD ’15, New York, NY, USA, 2015a. ACM. doi: 10.1145/2723372.2751521. URL http://users.jyu.fi/~miselico/papers/twister_tries.pdf
18. Sergey Chernov, *Michael Cochez*, and Tapani Ristaniemi. Anomaly detection algorithms for the sleeping cell detection in LTE networks. In *Vehicular Technology Conference (VTC Spring), 2015 IEEE 81st*, pages 1–5. IEEE, 2015. URL http://users.jyu.fi/~miselico/papers/anomaly_sleeping_cell.pdf
19. Horacio Paggi and *Michael Cochez*. Indeterminacy reduction in agent communication using a semantic language. *WSEAS TRANSACTIONS on SYSTEMS*, 14:77–89, 2015. URL http://users.jyu.fi/~miselico/papers/indeterminacy2015pagi_preprint.pdf
20. Horacio Paggi and *Michael Cochez*. Use of a semantic language to reduce the indeterminacy in agents communication. In *Mathematics and Computers in Sciences and in Industry (MCSI), 2014 International Conference*

- on, pages 281–287. IEEE, 2014. URL http://users.jyu.fi/~miselico/papers/indeterminacy2014pagi_preprint.pdf
21. Ville Isomöttönen and *Michael Cochez*. Challenges and confusions in learning version control with git. In Vadim Ermolayev, Heinrich C. Mayr, Mykola Nikitchenko, Aleksander Spivakovsky, and Grygoriy Zholtkevych, editors, *10th International Conference, ICTERI 2014, Kherson, Ukraine, June 9-12, 2013, Revised Selected Papers*, pages 178–193, Cham, 2014. Springer International Publishing. ISBN 978-3-319-13206-8. doi: 10.1007/978-3-319-13206-8_9. URL http://dx.doi.org/10.1007/978-3-319-13206-8_9
 22. *Michael Cochez*. Locality-sensitive hashing for massive string-based ontology matching. In *Web Intelligence (WI) and Intelligent Agent Technologies (IAT), 2014 IEEE/WIC/ACM International Joint Conferences on*, volume 1, pages 134–140. IEEE, 2014. URL http://users.jyu.fi/~miselico/papers/LSH_ontology_matching.pdf
 23. Vadim Ermolayev, Rajendra Akerkar, Vagan Terziyan, and *Michael Cochez*. Towards evolving knowledge ecosystems for big data understanding. In Rajendra Akerkar, editor, *Big Data Computing*, pages 3–55. Taylor & Francis group - Chapman and Hall/CRC, 2014. ISBN 978-1-46-657837-1. Preprint part of my doctoral dissertation
 24. Ville Isomöttönen, Ville Tirronen, and *Michael Cochez*. Issues with a course that emphasizes self-direction. In *Proceedings of the 18th ACM Conference on Innovation and Technology in Computer Science Education, ITiCSE '13*, pages 111–116, New York, NY, USA, 2013. ACM. ISBN 978-1-4503-2078-8. doi: 10.1145/2462476.2462495. URL <http://doi.acm.org/10.1145/2462476.2462495>
 25. *Michael Cochez*, Ville Isomöttönen, Ville Tirronen, and Jonne Itkonen. How do computer science students use distributed version control systems? In Vadim Ermolayev, Heinrich C. Mayr, Mykola Nikitchenko, Aleksander Spivakovsky, and Grygoriy Zholtkevych, editors, *9th International Conference, ICTERI 2013, Kherson, Ukraine, June 19-22, 2013, Revised Selected Papers*, pages 210–228, Cham, 2013b. Springer International Publishing. ISBN 978-3-319-03998-5. doi: 10.1007/978-3-319-03998-5_11. URL http://dx.doi.org/10.1007/978-3-319-03998-5_11
 26. *Michael Cochez*, Ville Isomöttönen, Ville Tirronen, and Jonne Itkonen. The use of distributed version control systems in advanced programming courses. In *ICTERI 2013 - ICT in Education, Research and Industrial Applications*, pages 221–235, Aachen, 2013c. CEUR Workshop Proceedings (1000). URL <http://ceur-ws.org/Vol-1000/ICTERI-2013-p-221-235.pdf>
 27. *Michael Cochez*, Sami Helin, and Jiawen Chen. Cloud communication service. In Ivan Porres, Tommi Mikkonen, and Adnan Ashraf, editors, *Developing cloud software : algorithms, applications, and tools*. TUCS Turku Center for Computer Science, general publication series, 10 2013a. URL <http://urn.fi/URN:ISBN:978-952-12-2952-7>

28. *Michael Cochez* and Vagan Terziyan. Quality of an ontology as a dynamic optimisation problem. In V. Ermolayev et. al, editor, *ICTERI 2012 - ICT in Education, Research and Industrial Applications*, pages 249–256, Aachen, 2012. CEUR Workshop Proceedings (848). URL <http://ceur-ws.org/Vol-848/ICTERI-2012-CEUR-WS-DEIS-paper-1-p-249-256.pdf>
29. Oleksiy Khriyenko and *Michael Cochez*. Open environment for collaborative cloud ecosystems. In *CLOUD COMPUTING 2011, The Second International Conference on Cloud Computing, GRIDs, and Virtualization*, pages 147–153, 2011. URL <http://users.jyu.fi/~miselico/papers/OECCE-2011.pdf>

Proceedings Editor

1. *Michael Cochez*, Thierry Declerck, Gerard de Melo, Luis Espinosa Anke, Besnik Fetahu, Dagmar Gromann, Mayank Kejriwal, Maria Koutraki, Freddy Lécué, Enrico Palumbo, and Harald Sack, editors. *Proceedings of the First Workshop on Deep Learning for Knowledge Graphs and Semantic Technologies (DL4KGS)*, number 2106 in CEUR, 2018a. CEUR. URL <http://ceur-ws.org/Vol-2106/>
2. Piero Andrea Bonatti, Stefan Decker, Axel Polleres, and Valentina Presutti. Knowledge Graphs: New Directions for Knowledge Representation on the Semantic Web (Dagstuhl Seminar 18371). *Dagstuhl Reports*, 8(9): 29–111, 2019. ISSN 2192-5283. doi: 10.4230/DagRep.8.9.29. URL <http://drops.dagstuhl.de/opus/volltexte/2019/10328>. I was an additional organizer and editor as acknowledged on the first page of the report

Technical reports, documentation and articles (non-reviewed)

1. Martina Garofalo, Maria Angela Pellegrino, Abdulrahman Altabba, and *Michael Cochez*. Leveraging knowledge graph embedding techniques for industry 4.0 use cases. *Cyber Defence in Industry 4.0 Systems and Related Logistics and IT Infrastructures – IOS Press*, 51:10, 2018. URL <https://arxiv.org/abs/1808.00434>
2. *Michael Cochez*, Naila Karim, and Iraklis Dimitriadis. Analysis of the DCAT-AP extensions. Study for the ISA² programme, European Commission, 2017b. URL <https://joinup.ec.europa.eu/document/analysis-dcat-ap-extensions>. This study was prepared for the ISA² Programme by: PwC EU Services
3. *Michael Cochez*, Stefan Decker, and Eric Gordon Prud’hommeaux. Knowledge representation on the web revisited: Tools for prototype based ontologies. In *arXiv*, 2016b. URL <https://arxiv.org/abs/1607.04809>. arXiv:1607.04809 [cs.AI]

4. *Michael Cochez*, Jacques Periaux, Vagan Terziyan, Kyryl Kamlyk, and Tero Tuovinen. Evolutionary cloud for cooperative UAV coordination. *Reports of the Department of Mathematical Information Technology, Series C. Software and Computational Engineering, No. C, 1*, 2014. URL <https://jyx.jyu.fi/dspace/handle/123456789/44629>
5. *Michael Cochez* and Michal Nagy. Ubiware application user guide. Technical report, Industrial Ontologies Group, University of Jyväskylä, 2012a. UBIWARE documentation [[link](#)]
6. Katasonov Arthem, *Michael Cochez*, and Michal Nagy. Ubiware application developer guide. Technical report, Industrial Ontologies Group, University of Jyväskylä, 2012. UBIWARE documentation [[link](#)]
7. Katasonov Arthem and *Michael Cochez*. Ubiware platform application developer’s guide – rab overview. Technical report, Industrial Ontologies Group, University of Jyväskylä, 2012. UBIWARE documentation [[link](#)]
8. *Michael Cochez*. Ubiware platform application developer’s guide – rab programming. Technical report, Industrial Ontologies Group, University of Jyväskylä, 2012b. UBIWARE documentation [[link](#)]
9. *Michael Cochez* and Michal Nagy. Ubiware infrastructure guide. Technical report, Industrial Ontologies Group, University of Jyväskylä, 2012b. UBIWARE documentation [[link](#)]
10. *Michael Cochez* and Michal Nagy. WP1: Mashupper – agent-enabled social cloud. Technical report, Tieto- ja viestintäteollisuuden tutkimus TIVIT Oy, 2011. Cloud Software Program Report, Q1-Q2/2011
11. Vagan Terziyan, Sergiy Nikitin, Michal Nagy, Oleksiy Khriyenko, Joonas Kesäniemi, *Michael Cochez*, and Atte Pulkkis. Ubiware platform prototype v 3.0. Technical report (deliverable d3.3), Agora Centre, University of Jyväskylä, 2010b. UBIWARE Tekes Project [[link](#)]

Master Thesis and Dissertation

1. *Michael Cochez*. Taming big knowledge evolution. Doctoral dissertation, University of Jyväskylä, May 2016. URL <http://urn.fi/URN:ISBN:978-951-39-6649-2>. Jyväskylä studies in computing 237
2. *Michael Cochez*. Semantic agent programming language: use and formalization. Master’s thesis, University of Jyväskylä, 2012a

Posters

1. Sophie Hallstedt, Nikita Makarov, Hossein Samieadel, Maria Pellegrino, Martina Garofalo, and *Michael Cochez*. Strategies to connect rdf graphs for link prediction using drug-disease knowledge graphs, 12 2018. URL <https://doi.org/10.6084/m9.figshare.7429094.v1>. Poster presented at the 11th International Conference Semantic Web Applications and Tools for Life Sciences (SWAT4HCLS 2018)

2. Kendra Oudyk and *Michael Cochez*. Birdsong query-by-humming using asymmetric set inclusion of pitch-curve segments, Feb 2018. Poster presented at the Cologne Spring School: Language, Music, and Cognition: Organizing Events in Time
3. *Michael Cochez* and Hao Mou. Twister tries: Approximate hierarchical agglomerative clustering for average distance in linear time, June 2015b. Poster presented in addition to oral presentation at SIGMOD 2015. See also the article in the conference proceedings
4. Sami Helin, Ville Loppinen, Anton Kupias, *Michael Cochez*, and Michal Nagy. Multi-channel communication framework, Dec 2012. Poster presented at the Cloud software program review meeting Q4/2012
5. Vagan Terziyan, Sergiy Nikitin, *Michael Cochez*, Michal Nagy, and Joonas Kesäniemi. Smart social phonebook, May 2010a. Poster presented at the Cloud software program review meeting Q3/2010