

Ralf Möller
Institute of Information Systems

Scientific Focus

Human-Compatible AI, Comprehensible Computation
Dynamic Probabilistic Relational Modeling, Machine Learning
Databases, Data Mining, Data Management
Relational Probabilistic Models, Machine Learning
Algorithms and Data Structures
Applications in Medicine, Humanities, Science, and Engineering

Employment

Institute of Information Systems

University of Luebeck
Lübeck, Germany
01.10.2014 → gegenwärtig

Spokesperson of the Research Unit Data Linking in the DFG Cluster of Excellence Understanding Written Artefacts

University of Hamburg
Hamburg, Germany
01.01.2018 → 01.01.2025

Research outputs

Humanities-Centered AI: From Machine Learning to Machine Training

Möller, R., 2021, *Humanities-Centred Artificial Intelligence, CHAI 2021: CEUR Workshop Proceedings*. Vol. 3093. p. 40-44

Abductive Conjunctive Query Answering w.r.t. Ontologies

Möller, R., Özçep, Ö. L., Haarslev, V., Nafissi, A. & Wessel, M., 13.10.2016, In: *KI - Künstliche Intelligenz*. 30, 2, p. 177-182 6 p.

Towards Analytics Aware Ontology Based Access to Static and Streaming Data

Möller, R., Kharlamov, E., Kotidis, Y., Brandt, S., Mailis, T., Neuenstadt, C., Nikolaou, C., Özçep, Ö. L., Svingos, C., Zheleznyakov, D., Horrocks, I., Ioannidis, Y. & Lamparter, S., 23.09.2016, *The Semantic Web -- ISWC 2016*. Groth, P., Simperl, E., Gray, A., Sabou, M., Krötzsch, M., Lecue, F., Flöck, F. & Gil, Y. (eds.). Cham: Springer International Publishing, Vol. 9982. p. 344-362 19 p. (Lecture Notes in Computer Science; vol. 9982).

Stream-temporal Querying with Ontologies

Möller, R., Neuenstadt, C. & Özçep, Ö. L., 01.09.2015, *HiDeSt '15---Proceedings of the First Workshop on High-Level Declarative Stream Processing (co-located with KI 2015)*. Nicklas, D. & Özçep, Ö. L. (eds.). CEUR-WS.org, Vol. 1447. p. 42-55 14 p. (CEUR Workshop Proceedings; vol. 1447).

Advances in Accessing Big Data with Expressive Ontologies.

Möller, R., Neuenstadt, C., Özçep, Ö. L. & Wandelt, S., 2013, *Description Logics*. p. 842-853 12 p.

Zur Rolle der Logik bei der Entwicklung Intelligenter Systeme.

Möller, R., 2011, In: *Künstliche Intell.* 25, 4, p. 309-311 3 p., 4.

Querying Large-Scale Ontologies.

Möller, R., 2009, *SEBD*. p. 1-2 2 p.

Tableau-Based Reasoning.

Möller, R. & Haarslev, V., 2009, *Handbook on Ontologies*. p. 509-528 20 p.

Implementing probabilistic description logics: An application to image interpretation.

Möller, R. & Näth, T. H., 2008, *Logic and Probability for Scene Interpretation*.

The Revival of Structural Subsumption in Tableau-based Reasoners.

Möller, R., Haarslev, V. & Wandelt, S., 2008, *Description Logics*.

Building a commercial OWL reasoner with Lisp.

Möller, R., 2007, *ILC*. p. 5 1 p.

How sensor data interpretation could benefit from description logics: A practical case study.

Möller, R. & Melzer, S., 2006, *Description Logics*.

Description Logics for the Semantic Web: Racer as a Basis for Building Agent Systems.

Möller, R. & Haarslev, V., 2003, In: *Künstliche Intell.* 17, 3, p. 10- 3.

Description Logic Systems.

Möller, R. & Haarslev, V., 2003, *Description Logic Handbook*. p. 282-305 24 p.

Graphical Interfaces for Racer: Querying DAML+OIL and RDF Documents.

Möller, R., Cornet, R. & Haarslev, V., 2003, *Description Logics*.

Terminological Default Reasoning about Spatial Information: A First Step.

Möller, R. & Wessel, M., 1999, *COSIT*. p. 189-204 16 p.

A Functional Layer for Description Logics: Knowledge Representation Meets Object-Oriented Programming.

Möller, R., 1996, *OOPSLA*. p. 198-213 16 p.

HAMVIS: Generierung von Visualisierungen in einem Rahmensystem zur systematischen Entwicklung von Benutzungsschnittstellen.

Möller, R., 1996, Infix Verlag, St. Augustin, Germany. 341 p. (DISKI)

HAMVIS: Generierung von Visualisierungen in einem Rahmensystem zur systematischen Entwicklung von Benutzungsschnittstellen.

Möller, R., 1996, *Ausgezeichnete Informatikdissertationen*. p. 62-78 17 p.

Knowledge-Based Dialog Structuring for Graphics Interaction.

Möller, R., 1996, *ECAI*. p. 271-275 5 p.

Object-Oriented Programming Support for CLASSIC.

Möller, R., 1996, *Description Logics*. p. 170-174 5 p.

Visualisierung und Benutzungsschnittstellen: Anwendungen und Forschungsfragen.

Möller, R., 1993, *GI Jahrestagung*. p. 322-327 6 p.

Layoutspezifikationen für komplexe graphische Objekte.

Möller, R. & Haarslev, V., 1990, *Graphik und KI*. p. 78-91 14 p.

Projects

EXC 2176: Understanding Written Artefacts

Bausi, A. (Speaker), Friedrich, M. (Speaker), Harter-Uibopuu, K. (Speaker), Bondarev, D. (Project Staff), Brockmann, C. (Project Staff), Depreux, P. (Project Staff), Fehrenbach, F. (Project Staff), Fischer, M. (Project Staff), Friedrich, M. (Project Staff), Grabowsky, V. (Project Staff), Hahn, O. (Project Staff), Heidemann, S. (Project Staff), Huck, O. (Project Staff), Isaacson, H. (Project Staff), Jacobsen, T. (Project Staff), Kern, M. (Project Staff), Kießling, R. (Project Staff), Klein, G. (Project Staff), Michel, C. (Project Staff), Mihailova, B. (Project Staff), Möller, R. (Project Staff), Quenzer, J. B. (Project Staff), Schneider, G. A. (Project Staff), Veltri, G. (Project Staff) & Wilden, E. (Project Staff)
01.01.19 → 31.12.24

Optimization techniques for descriptive-logical reasoning systems in the field of geo-data (GeoDL)

Möller, R. (Principal Investigator (PI)) & Grütter, R. (Associated Staff)
01.01.09 → 31.12.12

Probabilistic preference measures for knowledge-based scene interpretation

Neumann, B. (Principal Investigator (PI)) & Möller, R. (Associated Staff)
01.01.07 → 31.12.12

Semantics-based formal representation and inference techniques for spatial problems

Neumann, B. (Principal Investigator (PI)), Haarslev, V. (Associated Staff) & Möller, R. (Associated Staff)
01.01.00 → 31.12.05