

Ralf Möller
Head of Department
Institute of Information Systems
Email: moeller@ifis.uni-luebeck.de
Phone: +49 451 3101-5704
Web address: <http://www.ifis.uni-luebeck.de>

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

Head of Department
Institute of Information Systems
University of Luebeck
Lübeck, Germany
01.02.2024 → 31.12.2024

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

Unsupervised Estimation of Subjective Content Descriptions.
Bender, M., Braun, T., Möller, R. & Gehrke, M., 2023, p. 266-273. 8 p.

Variables are a Curse in Software Vulnerability Prediction.
Groppe, J., Groppe, S. & Möller, R., 2023, *DEXA (1)*. p. 516-521 6 p. (Lecture Notes in Computer Science (including subseries Lecture Notes in Artificial Intelligence and Lecture Notes in Bioinformatics); vol. 14146 LNCS).

Using decPOMDPcoms to Holistically Model and Program Nanodevices and Emergent Nanonetworks
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Deep Learning-Based Classification of Customer Communications of a German Utility Company
Groppe, J., Schlichting, R., Groppe, S. & Möller, R., 2022, *Semantic Intelligence: Select Proceedings of ISIC 2022*. Groppe, S., Jain, S. & Bhargava, B. (eds.). Springer Singapore, Vol. 1. (Lecture Notes in Electrical Engineering; vol. 964).

Embodiment of an Agent by a Pepper Robot for Explaining Retrieval Results.
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Estimating Context-Specific Subjective Content Descriptions using BERT.
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Lifting in Multi-agent Systems under Uncertainty

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Complementary Document Representations for Information Retrieval

Melzer, S., Schiff, S. & Möller, R., 2021, *Proceedings of FLAIRS-34*.

Concept Drift Detection in Dynamic Probabilistic Relational Models.

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Dynamic Domain Sizes in Temporal Probabilistic Relational Models.

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Enhancing Relational Topic Models with Named Entity Induced Links.

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Handling Overlaps When Lifting Gaussian Bayesian Networks.

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On the Behaviour of Weighted Permutation Entropy on Fractional Brownian Motion in the Univariate and Multivariate Setting.

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Projects

EXC 2176: Understanding Written Artefacts

Bausi, A. (Speaker, Coordinator), Friedrich, M. (Speaker, Coordinator), Harter-Uibopuu, K. (Speaker, Coordinator), 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 → ...

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