Publications

(Updated: 12/2019)

- Peer-reviewed journal articles:

1. **T. R. Besold**, J. Hernandez-Orallo, and U. Schmid. Can machine intelligence be measured in the same way as human intelligence. KI - Künstliche Intelligenz, vol. 29(3), p. 291-297. Springer, 2015 (DOI: 10.1007/s13218-015-0361-4)
2. **T. R. Besold** and K.-U. Kühnberger. Towards Integrated Neural-Symbolic Systems for Human-Level AI: Two Research Programs Helping to Bridge the Gaps. Biologically Inspired Cognitive Architectures, 14(4), p. 97-110. Elsevier, 2015 (DOI: 10.1016/j.bica.2015.09.003)
3. M. Martinez, A. Abdel-Fattah, U. Krumnack, D. Gomez-Ramirez, A. Smaill, **T. R. Besold**, A. Pease, M. Schmidt, M. Guhe, and K.-U. Kühnberger. Theory Blending: extended algorithmic aspects and examples. Annals of Mathematics and Artificial Intelligence. Springer, 2016 (DOI: 10.1007/s10472-016-9505-y)
4. **T. R. Besold** and U. Schmid. Generality Is Key to Human-Level Artificial Intelligence. Advances in Cognitive Systems, 4, p. 13-24. CogSys.org, 2016
5. **T. R. Besold**. On Cognitive Aspects of Human-Level Artificial Intelligence. KI - Künstliche Intelligenz, 30(3), p. 343-346. Springer, 2016 (DOI: 10.1007/s13218-016-0435-y)
6. **T. R. Besold**, A. d'Avila Garcez, K. Stenning, L. van der Torre, and M. van Lambalgen. Reasoning in Non-Probabilistic Uncertainty: Logic Programming and Neural-Symbolic Computing as Examples. Minds and Machines, 27(1), p. 37-77. Springer, 2017 (DOI: 10.1007/s11023-017-9428-3)
7. A. Recknagel and **T. R. Besold**. Towards Efficiently Implementing Dodgson's Formally Intractable Voting Rule. KI - Künstliche Intelligenz, 31(2), p. 161-167. Springer, 2017 (DOI: 10.1007/s13218-016-0454-8)
8. **T. R. Besold**, M. Hedblom, and O. Kutz. A narrative in three acts: Using combinations of image schemas to model events. Biologically Inspired Cognitive Architectures, 19, p. 10-20. Elsevier, 2017 (DOI: 10.1016/j.bica.2016.11.001)
9. **T. R. Besold**, K.-U. Kühnberger, and E. Plaza. Towards a Computational- and Algorithmic-Level Account of Concept Blending Using Analogies and Amalgams. Connection Science, 29(4), p. 387-413. Taylor and Francis, 2017 (DOI: 10.1080/09540091.2017.1326463)
10. Frederik Harder and **Tarek R. Besold**. Learning Lukasiewicz Logic. Cognitive Systems Research, 47, p. 42-67. Elsevier, 2018 (DOI: 10.1016/j.cogsys.2017.07.004)
11. **T. R. Besold** and S. Uckelman. Normative and descriptive rationality: From Nature to Artifice and Back. Journal of Experimental & Theoretical Artificial Intelligence, 30(2), p. 331-344. Taylor & Francis, 2018 (DOI: 10.1080/0952813X.2018.1430860)

12. S. H. Muggleton, U. Schmid, C. Zeller, A. Tamaddoni-Nezhad, and **T. R. Besold**. Ultra-Strong Machine Learning – Comprehensibility of Programs Learned with ILP. Machine Learning, 107(7), p.1119-1140. Springer, 2018
13. L. Zaadnooridjk, **T. R. Besold**, and S. Hunnius. A Match Does not Make a Sense: On the sufficiency of the comparator model for explaining the sense of agency. Neuroscience of Consciousness, 2019(1), niz006. Oxford University Press, 2019 (DOI: 10.1093/nc/niz006)
14. L. Zaadnoordijk, **T. R. Besold**, S. Hunnius, and C. Zednik (*in preparation*). Using Mechanistic Explanation to Infer Infants' Subjective Experience: A theoretical framework. 2019
15. **T. R. Besold**, L. Zaadnooridjk and D. Vernon (*under review*). Feeling Functional: A Formal Account of Artificial Phenomenology. Nature Machine Intelligence, 2019

- Peer-reviewed conference papers, symposium contributions, etc.:

1. **T. R. Besold** and S. Mandl. Integrating logical and sub-symbolic contexts of reasoning. In Joaquim Filipa, Ana Fred, Bernadette Sharp (eds.), Proceedings of ICAART 2010 Second International Conference on Agents and Artificial Intelligence, vol. 1, p. 494-497. INSTICC Press, 2010 (DOI: 10.5220/0002704704940497)
2. **T. R. Besold** and B. Schiemann. A Multi-Context System Computing Modalities. In Proceedings of the 23rd International Workshop on Description Logics (DL2010), CEUR-Workshop Proceedings 573, p. 439-450. CEUR-WS.org, 2010
3. **T. R. Besold** and S. Mandl. Towards an Implementation of a Multi-Context System Framework. In Cassens, J., Kofod-Petersen, A., Zacarias, M. S., and Wegener, R. K. (eds.), Proceedings of the Sixth International Workshop on Modeling and Reasoning in Context, CEUR-Workshop Proceedings 618, p. 13-24. CEUR-WS.org, 2010
4. M. Martinez, **T. R. Besold**, A. Abdel-Fattah, K.-U. Kühnberger, H. Gust, M. Schmidt, and U. Krumnack. Towards a domain-independent computational framework for theory blending. In AAAI Technical Report of the AAAI Fall 2011 Symposium on Advances in Cognitive Systems, FS-11-01, p. 210-217. AAAI Press, 2011
5. **T. R. Besold**, H. Gust, U. Krumnack, A. Abdel-Fattah, M. Schmidt, and K.-U. Kühnberger. An Argument for an Analogical Perspective on Rationality & Decision-Making. In Jan van Eijck and Rineke Verbrugge (eds.), Proceedings of the Workshop on Reasoning About Other Minds: Logical and Cognitive Perspectives (RAOM-2011), Groningen, The Netherlands, CEUR-Workshop Proceedings 751, p. 20-31. CEUR-WS.org, 2011
6. **T. R. Besold** and K.-U. Kühnberger. E Pluribus Multa In Unum: The Rationality Multiverse. In N. Miyake, D. Peebles and R. P. Cooper (eds.), Proceedings of the 34th Annual Conference of the Cognitive Science Society, p.1332-1337. Cognitive Science Society, 2012
7. A. Abdel-Fattah, **T. R. Besold**, K.-U. Kühnberger, U. Krumnack, M. Schmidt, H. Gust and P. Wang. Rationality-Guided AGI as Cognitive Systems. In N. Miyake, D. Peebles and R. P. Cooper (eds.), Proceedings of the 34th Annual Conference of the Cognitive Science Society, p. 1242-1247. Cognitive Science Society, 2012
8. **T. R. Besold**, M. Schmidt, H. Gust, U. Krumnack, A. Abdel-Fattah, and K.-U.

Kühnberger. Rationality Through Analogy: On HDTP and Human-Style Rationality. In Proceedings of SAMAI: Similarity and Analogy-based Methods in AI, Workshop at ECAI 2012, Montpellier, France, August 2012. Rapport Interne IRIT/RR–2012-20–FR, p. 9-12. IRIT Toulouse, 2012

9. A. Abdel-Fattah, **T. R. Besold**, and K.-U. Kühnberger. Creativity, Cognitive Mechanisms, and Logic. In Artificial General Intelligence - 5th International Conference (AGI 2012), LNCS vol. 7716, p. 1-10. Springer, 2012 (DOI: 10.1007/978-3-642-35506-6_1)
10. R. Robere and **T. R. Besold**. Complex Analogies: Remarks on the Complexity of HDTP. In Proceedings of the 25th Australasian Joint Conference on Artificial Intelligence (AI 2012), LNCS vol. 7691, p. 530-542. Springer, 2012 (DOI: 10.1007/978-3-642-35101-3_45)
11. **T. R. Besold**. Analogy Engines in Classroom Teaching: Modeling the String Circuit Analogy. In AAAI Technical Report of the AAAI Spring 2013 Symposium on Creativity and (Early) Cognitive Development, SS-13-02, p. 20-25. AAAI Press, 2013
12. U. Krumnack, A. Schwering, K.-U. Kühnberger, H. Gust, A. Abdel-Fattah, **T. R. Besold**, M. Schmidt, and S. Schneider. Sketch Learning by Analogy. In Proceedings of Shapes 2013, CEUR-Workshop Proceedings 1007, p. 49-58. CEUR-WS.org, 2013
13. **T. R. Besold** and R. Robere. When Almost Is Not Even Close: Remarks on the Approximability of HDTP. In Artificial General Intelligence - 6th International Conference (AGI 2013), LNCS vol. 7999, p. 11-20. Springer, 2013 (DOI: 10.1007/978-3-642-39521-5_2) (**AGI 2013 Best Student Paper Award.**)
14. **T. R. Besold** and R. Robere. A Note on Tractability and Artificial Intelligence. In Artificial General Intelligence - 6th International Conference (AGI 2013), LNCS vol. 7999. p. 170-173. Springer, 2013 (DOI: 10.1007/978-3-642-39521-5_18)
15. **T. R. Besold**. Human-Level Artificial Intelligence Must Be a Science. In Artificial General Intelligence - 6th International Conference (AGI 2013), LNCS vol. 7999, p. 174-177. Springer, 2013 (DOI: 10.1007/978-3-642-39521-5_19)
16. **T. R. Besold**, A. Pease, and M. Schmidt. Analogy and Arithmetic: An HDTP-Based Model of the Calculation Circular Staircase. In Proceedings of the 35th Annual Conference of the Cognitive Science Society, p. 1893-1898. Cognitive Science Society, 2013
17. **T. R. Besold**. Rationality in Context: An Analogical Perspective. In Modeling and Using Context, LNCS vol. 8175, p. 129-142. Springer, 2013 (DOI: 10.1007/978-3-642-40972-1_10)
18. **T. R. Besold**. Formal Limits to Heuristics in Cognitive Systems. In Proceedings of the Second Annual Conference on Advances in Cognitive Systems 2013 (Poster Collection), p. 19-28. CogSys.org, 2013
19. **T. R. Besold**, K. Smith, D. Walker, and T. Ullman. Massive Insights in Infancy: Modeling Children's Discovery of Mass and Momentum. In Proceedings of the KI 2014 Workshop on Higher-Level Cognition and Computation, SFB/TR 8 Report No. 037-09/2014, p. 27-36. Report Series of the Transregional Collaborative Research Center SFB/TR 8 Spatial Cognition, Universität Bremen/Universität Freiburg, 2014
20. **T. R. Besold** and K.-U. Kühnberger. Applying AI for Modeling and Understand-

ing Analogy-Based Classroom Teaching Tools & Techniques. In KI 2014: Advances in Artificial Intelligence - 37th Annual German Conference on AI, LNCS vol. 8736, p. 55-61. Springer, 2014 (DOI: 10.1007/978-3-319-11206-0_6)

21. **T. R. Besold**. A Note on Chances and Limitations of Psychometric AI. In KI 2014: Advances in Artificial Intelligence - 37th Annual German Conference on AI, LNCS vol. 8736, p. 49-54. Springer, 2014 (DOI: 10.1007/978-3-319-11206-0_5)
22. **T. R. Besold**. Towards Formally Well-Founded Heuristics in Cognitive AI Systems. In Cognitive Processing: International Quarterly of Cognitive Science, 15(1) supplement - September 2014, p. S87-S89. Springer, 2014 (DOI: 10.1007/s10339-014-0632-2)
23. **T. R. Besold**. Sensorimotor Analogies in Learning Abstract Skills and Knowledge: Modeling Analogy-Supported Education in Mathematics and Physics. In AAAI Technical Report of the AAAI Fall 2014 Symposium on Modeling Changing Perspectives: Reconceptualizing Sensorimotor Experiences, FS-14-05, p. 2-7. AAAI Press, 2014
24. M. Martinez, U. Krumnack, A. Smaill, **T. R. Besold**, A. Abdel-Fattah, M. Schmidt, H. Gust, K.-U. Kühnberger, M. Guhe, and A. Pease. Algorithmic Aspects of Theory Blending. In Proceedings of the 12th International Conference on Artificial Intelligence and Symbolic Computation (AISC) 2014, LNCS vol. 8884, p. 180-192. Springer, 2014 (DOI: 10.1007/978-3-319-13770-4_16)
25. A. d'Avila Garcez, **T. R. Besold**, L. de Raedt, P. Földiak, P. Hitzler, T. Icard, K.-U. Kühnberger, L. Lamb, R. Miikkulainen, and D. Silver. Neural-Symbolic Learning and Reasoning: Contributions and Challenges. In AAAI Technical Report of the AAAI Spring 2015 Symposium on Knowledge Representation and Reasoning: Integrating Symbolic and Neural Approaches, SS-15-03, p. 18-21. AAAI Press, 2015
26. **T. R. Besold** and U. Schmid. The Artificial Jack of All Trades: The Importance of Generality in Approaches to Human-Level Artificial Intelligence. In Proceedings of the Third Annual Conference on Advances in Cognitive Systems 2015. CogSys.org, 2015
27. **T. R. Besold**, K.-U. Kühnberger, and E. Plaza. Analogy, Amalgams, and Concept Blending. In Proceedings of the Third Annual Conference on Advances in Cognitive Systems 2015 (Poster Collection). CogSys.org, 2015
28. **T. R. Besold** and E. Plaza. Generalize and Blend: Concept Blending Based on Generalization, Analogy, and Amalgams. In Proceedings of the Sixth International Conference on Computational Creativity (ICCC) 2015 (**ICCC 2015 Best Paper Award.**)
29. **T. R. Besold**, K.-U. Kühnberger, A. d'Avila Garcez, A. Saffiotti, M. Fischer, and A. Bundy. Anchoring Knowledge in Interaction: Towards a harmonic subsymbolic/symbolic framework and architecture of computational cognition. In Artificial General Intelligence - 8th International Conference (AGI 2015), LNAI vol. 9205, p. 35-45. Springer, 2015 (DOI: 10.1007/978-3-319-21365-1_4)
30. **T. R. Besold**. Same same, but different? Exploring differences in complexity between logic and neural networks. In Proceedings of the Tenth International Workshop on Neural-Symbolic Learning and Reasoning (NeSy'15), p. 5-10. Neural-Symbolic.org, 2015
31. **T. R. Besold**. The Unnoticed Creativity Revolutions: Bringing Problem-Solving

Back into Computational Creativity. Proceedings of the AISB 2016 Symposium on Computational Creativity (CC 2016). AISB, 2016 (**CC 2016 Best Paper Award.**)

32. U. Schmid, C. Zeller, **T. R. Besold**, A. Tamaddoni-Nezhad, and S. Muggleton. How does Predicate Invention affect Human Comprehensibility?. Post-Proceedings of the 26th International Conference on Inductive Logic Programming (ILP), LNCS vol. 10326, p. 52-67. Springer, 2017 (DOI: https://doi.org/10.1007/978-3-319-63342-8_5)
33. D. Doran, S. Schulz, and **T. R. Besold**. What Does Explainable AI Really Mean? A new Conceptualization of Perspectives. In Proceedings of the International Workshop on Comprehensibility and Explanation in AI and ML (CEX) 2017, CEUR-Workshop Proceedings 2071. CEUR-WS.org, 2018
34. L. Zaadnoordijk and **T. R. Besold**. Artificial Phenomenology for Human-Level Artificial Intelligence. In Proceedings of the AAAI Spring 2019 Symposium on Towards Conscious AI Systems, CEUR-Workshop Proceedings 2287. CEUR-WS.org, 2019

- Book chapters (with and without peer-review):

1. M. Martinez, **T. R. Besold**, A. Abdel-Fattah, H. Gust, M. Schmidt, U. Krumnack, and K.-U. Kühnberger. Theory Blending as a Framework for Creativity in Systems for General Intelligence. In Foundations of Artificial General Intelligence. Atlantis Thinking Machines, vol. 4, p. 219-239. Springer, 2012 (DOI: 10.2991/978-94-91216-62-6_12)
2. U. Krumnack, A. Schwering, K.-U. Kühnberger, and **T. R. Besold**. Analogies and Analogical Reasoning in Invention. In Encyclopedia of Creativity, Invention, Innovation, and Entrepreneurship, p.56-62. Springer, 2012 (DOI: 10.1007/978-1-4614-3858-8_128)
3. **T. R. Besold**. Rationality in/for/through AI. In Jozef Kelemen, Jan Romportl, and Eva Zackova (eds.), Beyond Artificial Intelligence: Contemplations, Expectations, Applications. Topics in Intelligent Engineering and Informatics, vol. 4, p. 49-62. Springer, 2013 (DOI: 10.1007/978-3-642-34422-0_3)
4. **T. R. Besold**. Turing Revisited: A Cognitively-Inspired Decomposition. In Vincent C. Müller (eds.), Theory and Philosophy of Artificial Intelligence. SAPERE, vol. 5, p. 121-132. Springer, 2013 (DOI: 10.1007/978-3-642-31674-6_9)
5. **T. R. Besold** and K.-U. Kühnberger. Kognition als Symbolverarbeitung: Das Computermodell des Geistes. In A. Stephan and Sven Walther (eds.), Handbuch Kognitionswissenschaft, p. 156-163. J.B. Metzler, Stuttgart/Weimar, 2013
6. **T. R. Besold** and K.-U. Kühnberger. Konnektionismus, Neuronale Netze and PDP. In A. Stephan and Sven Walther (eds.), Handbuch Kognitionswissenschaft, p. 164-169. J.B. Metzler, Stuttgart/Weimar, 2013
7. **T. R. Besold** and K.-U. Kühnberger. Hybride Architekturen. In A. Stephan and Sven Walther (eds.), Handbuch Kognitionswissenschaft, p. 170-174. J.B. Metzler, Stuttgart/Weimar, 2013
8. **T. R. Besold**, N. Becker, C. Dimroth, R. Grabner, K. Scheiter, and K. Völk. Lernen. In A. Stephan and Sven Walther (eds.), Handbuch Kognitionswissenschaft, p. 344-360. J.B. Metzler, Stuttgart/Weimar, 2013

9. **T. R. Besold** and R. Robere. When Thinking Never Comes to a Halt: Using Formal Methods in Making Sure Your AI Gets the Job Done Good Enough. In V. C. Müller (eds.), Fundamental Issues of Artificial Intelligence. Synthese Library, vol. 376. Springer, 2016 (DOI: 10.1007/978-3-319-26485-1)
10. **T. R. Besold**. The Relationship of Conceptual Blending and Analogical Reasoning. In R. Confalonieri, A. Pease, M. Schorlemmer, T. R. Besold, O. Kutz, E. Maclean, and M. Kaliakatsos-Papakostas (eds.), Concept Invention: Foundations, Implementation, Social Aspects and Applications. Computational Synthesis and Creative Systems. Springer, 2018 (DOI: 10.1007/978-3-319-65602-1)
11. R. Confalonieri, **T. R. Besold**, M. Codescu, E. Maclean, and M. Eppe. Enabling Technologies for Concept Invention. In R. Confalonieri, A. Pease, M. Schorlemmer, T. R. Besold, O. Kutz, E. Maclean, M. Kaliakatsos-Papakostas (eds.), Concept Invention: Foundations, Implementation, Social Aspects and Applications. Computational Synthesis and Creative Systems. Springer, 2018 (DOI: 10.1007/978-3-319-65602-1)

- Abstracts (with and without peer-review):

1. **T. R. Besold**. Theory and Implementation of Multi-Context Systems Containing Logical and Sub-Symbolic Contexts of Reasoning (extended abstract). In Informatiktage 2010 – Fachwissenschaftlicher Informatikkongress 19. and 20. März 2010, B-IT Bonn-Aachen International Center for Information Technology in Bonn, LNI S-9 GI 2010/2009, 2010
2. **T. R. Besold** and S. Mandl. Integrating Logical and Sub-Symbolic Contexts of Reasoning (two-page abstract as compressed contribution). In Procceedings of BNAIC 2010 - 22nd Benelux Conference on Artificial Intelligence, Luxembourg, Luxembourg, ISSN 1568-7805, 2010
3. **T. R. Besold**, H. Gust, U. Krumnack, A. Abdel-Fattah, M. Schmidt, and K.-U. Kühnberger. Précis of An Argument for an Analogical Perspective on Rationality & Decision-Making. In 1. Interdisziplinärer Workshop Kognitive Systeme: Mensch, Teams, Systeme and Automaten, 2011
4. **T. R. Besold**. Turing Revisited (extended abstract). In Philosophy and Theory of Artificial Intelligence (PT-AI 2011), 2011
5. **T. R. Besold**. Rationality in/through/for AI (extended abstract). In Jan Romportl, Pavel Ircing, Eva Zackova, Radek Schuster, and Michal Polak (eds.), Proceedings of Extended Abstracts Presented at the International Conference Beyond AI 2011, 2011
6. **T. R. Besold**, H. Gust, U. Krumnack, M. Schmidt, A. Abdel-Fattah, and K.-U. Kühnberger. Rationality Through Analogy - Towards a Positive Theory and Implementation of Human-Style Rationality (extended abstract). In MATHMOD 2012 PREPRINT Abstract Volume, 2012
7. A. G. Perrone and **T. R. Besold**. Anxiety, working memory and analogical reasoning. In Proceedings of the 11th Biannual Meeting of the German Cognitive Science Society (KogWis 2012), 2012
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9. **T. R. Besold**, K.-U. Kühnberger, U. Krumnack, H. Gust, M. Schmidt, and A.

Abdel-Fattah. An Ecological Rationality Multiverse. In Proceedings of the 11th Biannual Meeting of the German Cognitive Science Society (KogWis 2012), 2012

10. A. Abdel-Fattah, K.-U. Kühnberger, H. Gust, U. Krumnack, **T. R. Besold**, and M. Schmidt. Towards a Computational Cognitive Model of Concept Blending. In Proceedings of the 11th Biannual Meeting of the German Cognitive Science Society (KogWis 2012), 2012
11. **T. R. Besold** and R. Robere. When Thinking Never Comes to a Halt: Tractability, Kernelization and Approximability in AI (extended abstract). In Proceedings of the 2nd Conference on Philosophy and Theory of Artificial Intelligence (PT-AI 2013), 2013
12. **T. R. Besold** and F. Jäkel. Learning Analogies. In Approaches and Applications of Inductive Programming (Dagstuhl Seminar 13502), Dagstuhl Reports 3(12), 2014
13. **T. R. Besold**. On the use of computational analogy-engines in modeling examples from teaching and education (extended abstract). In Cognitive Processing: International Quarterly of Cognitive Science, vol. 15/issue 1 supplement - September 2014. Springer, 2014
14. **T. R. Besold**. When Thinking Never Comes to a Halt: Tractability and Approximability in AI. In Resource-Bounded Problem Solving (Dagstuhl Seminar 14341), Dagstuhl Reports 4(8), 2014
15. **T. R. Besold**. Formally Making Sure Your AI Gets the Job Done (Good Enough). In Resource-Bounded Problem Solving (Dagstuhl Seminar 14341), Dagstuhl Reports 4(8), 2014
16. **T. R. Besold**. Non-Classical and Cross-Domain Reasoning. In Multi-disciplinary Approaches to Reasoning with Imperfect Information and Knowledge - a Synthesis and a Roadmap of Challenges (Dagstuhl Seminar 15221), Dagstuhl Reports 5(5), 2016
17. **T. R. Besold**. The Artificial Jack of All Trades: The Importance of Generality in Approaches to AI. In Approaches and Applications of Inductive Programming (Dagstuhl Seminar 15442), Dagstuhl Reports 5(10), 2016
18. **T. R. Besold**. Computational Creativity's Problems with Problem-Solving. In Human-Like Computing Machine Intelligence Workshop (MI20-HLC), Cumberland Lodge, Windsor, UK, 23-25 October, 2016
19. **T. R. Besold**, S. Muggleton, U. Schmid, A. Tamaddoni-Nezhad, and C. Zeller. Towards Ultra-Strong Machine Learning – Comprehensibility of Programs Learned with ILP. In Human-Like Computing Machine Intelligence Workshop (MI20-HLC), Cumberland Lodge, Windsor, UK, 23-25 October, 2016
20. R. Confalonieri, T. R. Besold, T. Weyde, K. Creel, T. Lombrozo, S. T. Mueller and Patrick Shafto. What makes a good explanation? Cognitive dimensions of explaining intelligent machines. Proceedings of the 41st Annual Conference of the Cognitive Science Society, p.25-26. Cognitive Science Society, 2019

- Technical reports:

1. **T. R. Besold**. Computational Models of Analogy-Making. An Overview Analysis of Computational Approaches to Analogical Reasoning. Technical Notes (X) Series X-2011-03, Institute of Logic, Language and Computation (ILLC), Universiteit van

Amsterdam, 2011

- e-Prints:

  1. A. Recknagel and **T. R. Besold**. Efficient Dodgson-Score Calculation Using Heuristics and Parallel Computing. arXiv:1507.05875 [cs.AI], arXiv.org, 2015
  2. **T. R. Besold**, A. d'Avila Garcez, K. Stenning, L. van der Torre, and M. van Lambalgen. Reasoning in Non-Probabilistic Uncertainty: Logic Programming and Neural-Symbolic Computing as Examples. arxiv: 1701.05226 [cs.AI], arXiv.org, 2017
  3. D. Doran, S. Schulz, and **T. R. Besold**. What Does Explainable AI Really Mean? A new Conceptualization of Perspectives. arxiv: 1710.00794 [cs.AI], arXiv.org, 2017
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  5. **T. R. Besold** and S. L. Uckelman. The What, the Why, and the How of Artificial Explanations in Automated Decision-Making. arxiv: 1808.07074 [cs.AI], arXiv.org, 2018
  6. R. Confalonieri, F. Moscoso del Prado, S. Agramunt, D. Malagarriga, D. Faggion, T. Weyde and **T. R. Besold**. TREPAN Reloaded: A Knowledge-Driven Approach to Explaining Artificial Neural Networks. arxiv: 1906.08362 [cs.AI], arXiv.porg, 2019

- Editorial work:

  – **Books:**
    1. **T. R. Besold**, M. Schorlemmer, and A. Smaill (eds.). Computational Creativity Research: Towards Creative Machines. Atlantis Thinking Machines, vol. 7. Springer, 2015 (DOI: 10.2991/978-94-6239-085-0)
    2. R. Confalonieri, A. Pease, M. Schorlemmer, **T. R. Besold**, O. Kutz, E. Maclean, M. Kaliakatsos-Papakostas (eds.). Concept Invention: Foundations, Implementation, Social Aspects and Applications. Computational Synthesis and Creative Systems. Springer, 2018 (DOI: 10.1007/978-3-319-65602-1)
  – **Journal special issues:**
    1. **T. R. Besold**, A. D'Avila Garcez, K.-U. Kühnberger, and T. C. Stewart (eds.). Special Issue on Neural-Symbolic Networks for Cognitive Capacities. Biologically Inspired Cognitive Architectures (BICA), vol. 9. Elsevier, 2014
    2. **T. R. Besold**, K.-U. Kühnberger, and T. Veale (eds.). Special Issue on Computational Creativity, Concept Invention, and General Intelligence. Journal of Artificial General Intelligence (JAGI), vol. 6(1). DeGruyter, 2015
    3. A. Roy, L. Perlovsky, **T. R. Besold**, J. Weng, and J. Edwards (eds.). Research Topic: Representation in the Brain. Frontiers in Psychology: Cognition. Frontiers, 2018
  – **Proceedings:**
    1. **T. R. Besold**, K.-U. Kühnberger, M. Schorlemmer, and A. Smaill (eds.). Proceedings of the Workshop "Computational Creativity, Concept Invention, and

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2. **T. R. Besold**, K.-U. Kühnberger, M. Schorlemmer, and A. Smaill (eds.). Proceedings of the Workshop "Computational Creativity, Concept Invention, and General Intelligence" (C3GI 2013). Publications of the Institute of Cognitive Science (ISSN 1610-5389), Vol. 2013/2, 2013
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