1st International Workshop on Hybrid Artificial Intelligence and Enterprise Modelling for Intelligent Information Systems (HybridAIMS '23)

Hybrid Artificial Intelligence is the research direction that focuses on the combination of two prominent fields sub-symbolic AI (e.g., machine learning, deep learning, neural networks) and symbolic AI (e.g., knowledge graphs, knowledge representation and reasoning, knowledge engineering, knowledge-based systems). Approaches from both fields have complementary strengths and enable the creation of Intelligent Information Systems (IIS). For example, whilst neural networks can recognize patterns in large amounts of data, knowledge-based systems contain domain knowledge and enable logical reasoning and explainability of conclusions. AI approaches are typically integrated with application systems, which provide data for the AI approaches and use the results of these approaches for further processing. Thus, the creation of IIS requires high expertise in both AI approaches, knowledge about the application domain and IT knowledge. An early inclusion of domain experts in the engineering process is beneficial as it promotes a high quality of an IIS and would reduce its building time. Such an early inclusion is, however, challenging because stakeholders from business and IT have complementary skills and speak different languages: one more technical and one more business oriented. Enterprise Modelling (EM) can tackle this challenge as it supports business and IT alignment. It is an established approach for the conceptual representation, design, implementation, and analysis of information systems. This is of relevance for AI approaches. Graphical notation of enterprise models fosters human interpretability, hence supporting communication and decision-making, involving stakeholders from the application domain, IT and AI. The convergence of Hybrid Artificial Intelligence and Enterprise Modelling promises to deliver high value in the creation of Intelligent Information Systems. The workshop featured 2 keynote speakers from industry and academia, and hosted a World Café to discuss and draw the next challenges in the field.

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