Proceedings of the 15th International Workshop on Neural-Symbolic Learning and Reasoning (NeSy)

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Preface

The NeSy workshop series celebrates the integration of neural and symbolic thinking, technologies, theories and techniques of Artificial Intelligence and Machine Learning. NeSy is the annual meeting of the Neural-Symbolic Learning and Reasoning Association.[1].

Neural networks and statistical Machine Learning have obtained industrial relevance in a number of areas from retail to healthcare, achieving state-of-the-art performance at language modelling, speech recognition, graph analytics, image, video and sensor data analysis. Symbolic AI, on the other hand, is challenged by such unstructured data, but is recognised as being in principle transparent, in that reasoned facts from knowledge-bases can be inspected to interpret how decisions follow from input. Neural and symbolic methods also contrast in the problems that they excel at: scene recognition from images appears to be a problem still outside the capabilities of symbolic systems, for example, while neural networks are not yet sufficient for industrial-strength complex planning scenarios and deductive reasoning tasks.

Neurosymbolic AI aims to build rich computational models and systems by combining neural and symbolic learning and reasoning paradigms. This combination hopes to form synergies among their strengths while overcoming their complementary weaknesses.

The NeSy workshop series is the premier venue for the presentation and discussion of the theory and practice of neural-symbolic computing systems.[2] Since 2005, NeSy has provided an atmosphere for the free exchange of ideas bringing together the community of scientists and practitioners that straddle the line between deep learning and symbolic AI.

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