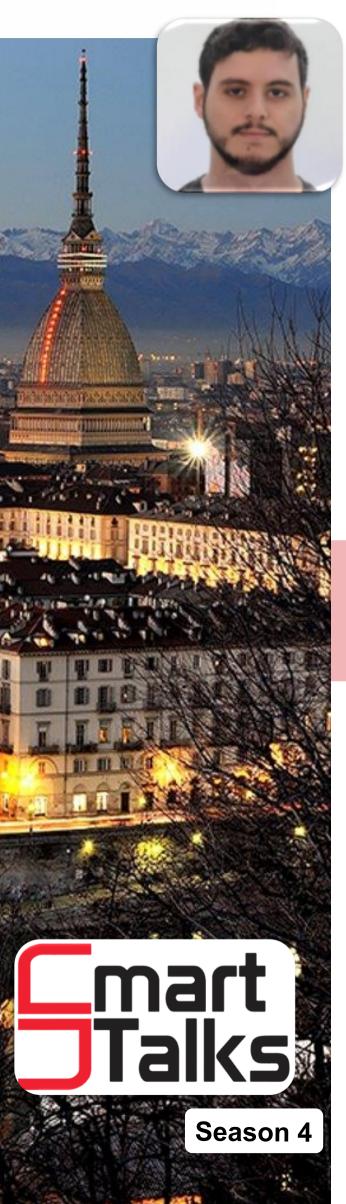Politecnico di Torino
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Alessandro Russo

I am a second-year Ph.D. student at Politecnico di Torino, working under the supervision of Prof. Fabrizio Lamberti and Lia Morra. Born and raised in Sicily between the two cities of Palermo and Agrigento, my fascination with Artificial Intelligence dates back to my childhood, where as a sci-fi enthusiast, movies like the Iron Giant or Bicentennial Man sparked my interest. This early passion has guided my academic journey, driving me to dedicate my efforts to developing skills in both machine learning and artificial intelligence. The trajectory of my academic pursuits its what eventually led me to Professor Laberti and Morra through my thesis work. It was during this time that I delved into the intriguing field of Neuro Symbolic and its reasoning capabilities, which captivated me and solidified my decision to pursue a research career in this domain.

Neuro-Symbolic AI Advancements in Computer Vision: A Comprehensive Exploration through Logic Tensor Network

ABSTRACT

In recent years, Neuro-Symbolic AI (NeSy) techniques, particularly within the Logic Tensor Networks (LTN) framework, have driven significant advancements in Computer Vision by integrating symbolic reasoning within neural networks. This hybrid paradigm holds promise for solving intricate real-world problems involving complex reasoning. In this work, the focus is to provide an overview of the current state of NeSy techniques trough the lenses of the LTNs. Through both literature and experiments, the hope is to provide a unified resource for researchers and practitioners, facilitating the navigation and discovery of NeSy, and in particular LTN, capabilities.

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