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DEFENSE

Computational Structures as Neural Symbolic Representation

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Abstract: Although end-to-end neural models have been dominating Natural Language Processing for both performance and flexibility, critics have recently drawn attention to their poor generalization and lack of interpretability. Conversely, symbolic paradigms such as Abstract Meaning Representation (AMR) are humanly comprehensible but less flexible. In response, we propose Executable Abstract Meaning Representation (EAMR) as a reconciliation of both paradigms. EAMR is a neural symbolic framework that frames a task as a program, which interactively gets generated, revised and executed. In our novel definition, execution is a sequence of transforms on AMR graphs. Through a hybrid runtime, EAMR learns the automatic execution of AMR graphs, yet it also allows for the integration of handcrafted heuristics, knowledge bases and APIs. EAMR can be used in many applications such as dialogue understanding and response generation.

https://emory.zoom.us/j/91398763361

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