

Three Levels for Large Language Model Cognition

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Abstract

Marr's three-level hypothesis is widely applied to information processing systems, including large language models (LLMs). Despite its usefulness, applying it to LLMs proves it to be a leaky abstraction: demarcating between levels tends to be a choice that needs to be argued for. The paper explores the three levels separately and offers paradigm examples of explanations for each level. It closes with a pragmatist proposal for studying LLM cognition, inspired by the philosophy of cognitive neuroscience.