Bayesian Selection of Grammar Productions for the Language of Thought

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Presentation Abstract Summary Probabilistic proposals of Language of Thoughts (LoTs) can explain learning across different domains as statistical inference over a compositionally structured hypothesis space. This space is usually formalized with a grammar where productions are fixed by researchers based on intuitions about the domain. In this work we show a generic method to select the set of productions of a LoT grammar from a broad repertoire of productions by an inferential process starting from experimental data, and then we test it in a specific LoT for the domain of geometry. A generic method like this could help prove the claim that the resulting grammars are actually suitable and could be a way to select the correct set of productions when it is not clear what a proper set should be.

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