

AGI Will Use ALL of the Tricks in the Book

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Abstract

The remarkable versatility of the human brain stems from its multifaceted computational architecture, encompassing numerous processing pathways optimized for a variety of functions. Analogously, we posit that the most powerful artificial intelligence models should leverage a diverse array of attention mechanisms, feed-forward networks, routing strategies and conditional computation modalities in parallel, while dynamically weighting their contributions based upon the task at hand. This paper proposes a novel framework for training such multifaceted AI models, drawing insights from the neurocognitive underpinnings of signal processing in the brain. Through extensive experiments on a range of natural language understanding and generation tasks, we demonstrate the superior adaptability and generalization of our approach compared to traditional single-mechanism models.

1 Introduction

The...