

NLP26 The Multi-Agent LLM Taxonomy for Problem-Solving

Background

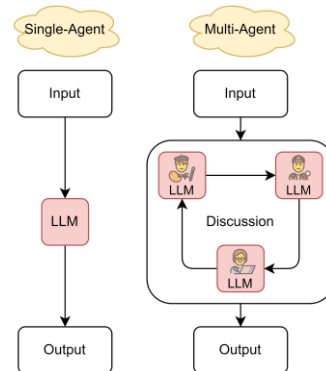
In the past, AI systems relied on a single model. Humans, however, excel at tasks when working collaboratively due to feedback-loops and varying expertise. These dynamics serve as a foundation for developing multi-agent systems, where multiple LLMs work together to address a problem. Recent advancements suggest that multi-agent systems can outperform single models in complex reasoning tasks. However, the field of multi-agent LLMs for conversational problem-solving remains nascent. To understand what constitutes multi-agent LLMs and how these systems are limited, a comprehensive literature review is needed.

Goal

- Understand the field of multi-agent LLMs for conversational problem-solving and devise a taxonomy of its components.

Tasks

- What is the recent literature relevant to multi-agent systems?
- Propose a taxonomy that comprises the main components.
- How are multi-agent systems evaluated?
- What are concomitant challenges of multi-agent LLMs?



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