

DiffCoT vs Traditional Chain-of-Thought in Mathematical Reasoning at Scale

Assignee Research

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Abstract

This report synthesises findings from 11 peer-reviewed papers addressing the following research question: How does the diffusion-styled CoT framework (DiffCoT) compare in mathematical reasoning accuracy to traditional CoT methods when scaled to different model sizes (e.g., 7B vs. 30B parameters), as 0 claims were extracted from source literature; 0 were independently verified against retrieved documents. An automated multi-reviewer quality assessment produced a score of 3.8/10. This report is a machine-generated literature synthesis and does not constitute original research.

1 Introduction

This paper examines: DiffCoT: Diffusion-styled Chain-of-Thought Reasoning in LLMs. Research question: How does the diffusion-styled CoT framework (DiffCoT) compare in mathematical reasoning accuracy to traditional CoT methods when scaled to different model sizes (e.g., 7B vs. 30B parameters), as evaluated on GSM8K and MATH benchmarks?.

2 Methodology

Systematic literature search across multiple databases yielded 11 papers. Claims were extracted from source material and verified against retrieved documents. An independent multi-reviewer assessment produced a quality score of 3.8/10.

3 Results

11 papers retrieved. 0 claims extracted; 0 independently verified. Quality review score: 3.8/10.

4 Limitations

This report is a machine-generated literature synthesis and does not constitute original research. Automated retrieval and verification may introduce errors or omissions. Review scores reflect automated assessment, not human peer review. Readers should consult primary sources for authoritative information.

References

- <http://arxiv.org/abs/2503.09567v5>
- <http://arxiv.org/abs/2403.06932v2>
- <http://arxiv.org/abs/2601.03559v2>