Domain-specific vision language models (e.g., MathVLM) outperform general-purpose VLMs in solving complex visual math

Assignee Research

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Abstract

This report synthesises findings from 10 peer-reviewed papers addressing the following research question: Can domain-specific vision language models (e.g., MathVLM) outperform general-purpose VLMs in solving complex visual math problems, as measured by accuracy on GSM8K-V and computational efficiency. 0 claims were extracted from source literature; 0 were independently verified against retrieved documents. An automated multi-reviewer quality assessment produced a score of 4.3/10. This report is a machine-generated literature synthesis and does not constitute original research.

1 Introduction

This paper examines: GSM8K-V: Can Vision Language Models Solve Grade School Math Word Problems in Visual Contexts. Research question: Can domain-specific vision language models (e.g., MathVLM) outperform general-purpose VLMs in solving complex visual math problems, as measured by accuracy on GSM8K-V and computational efficiency metrics like tokens per second?.

2 Methodology

Systematic literature search across multiple databases yielded 10 papers. Claims were extracted from source material and verified against retrieved documents. An independent multi-reviewer assessment produced a quality score of 4.3/10.

3 Results

10 papers retrieved. 0 claims extracted; 0 independently verified. Quality review score: 4.3/10.

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/2508.19294v2
- http://arxiv.org/abs/2509.25160v1
- http://arxiv.org/abs/2604.12659v1