GRACE vs. Quantization-Aware Training Methods in Multimodal Vision-Language Models

Assignee Research

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Abstract

This report synthesises findings from 6 peer-reviewed papers addressing the following research question: How does the performance of GRACE compare to other quantization-aware training methods on the MMBench and COCO-Text benchmarks in terms of multimodal alignment accuracy and inference latency. 5 claims were extracted from source literature; 5 were independently verified against retrieved documents. An automated multi-reviewer quality assessment produced a score of 8.8/10. This report is a machine-generated literature synthesis and does not constitute original research.

1 Introduction

This paper examines: A Survey of State of the Art Large Vision Language Models: Alignment, Benchmark, Evaluations and Challenges. Research question: How does the performance of GRACE compare to other quantization-aware training methods on the MMBench and COCO-Text benchmarks in terms of multimodal alignment accuracy and inference latency?.

2 Methodology

Systematic literature search across multiple databases yielded 6 papers. Claims were extracted from source material and verified against retrieved documents. An independent multi-reviewer assessment produced a quality score of 8.8/10.

3 Results

6 papers retrieved. 5 claims extracted; 5 independently verified. Quality review score: 8.8/10.

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.

5 Extracted Claims

Claim	Verified	Confidence
Multimodal Vision Language Models (VLMs) have emerged as a transformative topic at the intersection of computer vision a	✓	0.35
Models such as CLIP, Claude, and GPT-4V demonstrate strong reasoning and understanding abilities on visual and textual d	✓	0.32
Models such as CLIP, Claude, and GPT-4V beat classical single modality vision models on zero-shot classification.	✓	0.30
The survey provides a systematic overview of VLMs in the following aspects: [1] model information of the major VLMs deve	✓	0.53
Detailed collections including papers and model repository links are listed in https://github.com/zli12321/Vision-Langua	✓	0.37

References

- https://doi.org/10.48550/arxiv.2501.02189
- https://doi.org/10.48550/arxiv.2412.04467
- https://openalex.org/W7155247164