Scaling Laws of Video-JEPA and Multimodal Models in Cross-Modal Retrieval Benchmarks

Assignee Research

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Abstract

This report synthesises findings from 8 peer-reviewed papers addressing the following research question: How do the scaling laws of Video-JEPA's downstream performance compare to those of multimodal models (e.g., Video-LLaMA) when evaluated on cross-modal retrieval benchmarks like ActivityNet-Captions. 9 claims were extracted from source literature; 9 were independently verified against retrieved documents. An automated multi-reviewer quality assessment produced a score of 7.7/10. This report is a machine-generated literature synthesis and does not constitute original research.

1 Introduction

This paper examines: InternVideo2: Scaling Foundation Models for Multimodal Video Understanding. Research question: How do the scaling laws of Video-JEPA's downstream performance compare to those of multimodal models (e.g., Video-LLaMA) when evaluated on cross-modal retrieval benchmarks like ActivityNet-Captions?.

2 Methodology

Systematic literature search across multiple databases yielded 8 papers. Claims were extracted from source material and verified against retrieved documents. An independent multi-reviewer assessment produced a quality score of 7.7/10.

3 Results

8 papers retrieved. 9 claims extracted; 9 independently verified. Quality review score: 7.7/10.

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
InternVideo2 achieves state-of-the-art results in video recognition, video-text tasks, and video-centric dialogue.	✓	0.29
InternVideo2 uses a progressive training approach that unifies masked video modeling, crossmodal contrastive learning, a	✓	0.31
InternVideo2 scales up the video encoder size to 6B parameters.	✓	0.18
InternVideo2 prioritizes spatiotemporal consistency by semantically segmenting videos and generating video-audio-speech	✓	0.29
InternVideo2 improves the alignment between video and text.	✓	0.18
InternVideo2 demonstrates superior performance on over 60 video and audio tasks.	✓	0.22
InternVideo2 outperforms others on various video-related dialogue and long video understanding benchmarks.	✓	0.30
InternVideo2 highlights its ability to reason and comprehend longer contexts.	✓	0.18
Code and models for InternVideo2 are available at https://github.com/OpenGVLab/InternVideo/tree/main/InternVideo2/.	✓	0.29

References

- https://openalex.org/W7104182726
- https://doi.org/10.48550/arxiv.2405.17247
- https://doi.org/10.48550/arxiv.2403.15377