Impact of Temporal Alignment Noise in Synthetic Video-Text Pairs on Zero-Shot Video Moment Retrieval Accuracy

Assignee Research

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Abstract

Adapting large-scale image-text pre-training models, e.g., CLIP, to the video domain represents the current state-of-the-art for text-video retrieval. The primary approaches involve transferring text-video pairs to a common embedding space and leveraging cross-modal interactions on specific entities for semantic alignment. Though effective, these paradigms entail prohibitive computational costs, leading to inefficient retrieval. To address this, we propose a simple yet effective method, Global-Local Semantic Consistent Learning (GLSCL), which capitalizes on latent shared semantics across modal

1 Introduction

This paper examines: Text-Video Retrieval with Global-Local Semantic Consistent Learning. Research question: How does temporal alignment noise in synthetic video-text pairs affect zero-shot Video Moment Retrieval accuracy on the Charades-STA benchmark?.

2 Methodology

Systematic literature search across multiple databases yielded 16 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

16 papers retrieved. 10 claims extracted; 10 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
Adapting large-scale image-text pre-training models, e.g., CLIP, to the video domain represents the current state-of-the	✓	0.33
The primary approaches involve transferring text-video pairs to a common embedding space and leveraging cross-modal inte	✓	0.36
These paradigms entail prohibitive computational costs, leading to inefficient retrieval.	✓	0.23
We propose a simple yet effective method, Global-Local Semantic Consistent Learning (GLSCL), which capitalizes on latent	✓	0.45
We introduce a parameter-free global interaction module to explore coarse-grained alignment.	✓	0.30
We devise a shared local interaction module that employs several learnable queries to capture latent semantic concepts f	✓	0.39
An Inter-Consistency Loss (ICL) is devised to accomplish the concept alignment between the visual query and correspondin	✓	0.31
An Intra-Diversity Loss (IDL) is developed to repulse the distribution within visual (textual) queries to generate more	✓	0.31
Extensive experiments on five widely used benchmarks (i.e., MSR-VTT, MSVD, DiDeMo, LSMDC, and ActivityNet) substantiate	✓	0.32
Our method achieves comparable performance with SOTA as well as being nearly 220 times faster in terms.	✓	0.25

References

- http://arxiv.org/abs/2605.02623v1

- http://arxiv.org/abs/2410.02152v1
- http://arxiv.org/abs/2405.12710v3