

Video-Subtitle Matching Pre-Training for Enhanced Video Captioning Performance

Assignee Research

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Abstract

Graph neural networks have emerged as a powerful tool for graph representation learning, but their performance heavily relies on abundant task-specific supervision. To reduce labeling requirement, the "pre-train, prompt" paradigms have become increasingly common. However, existing study of prompting on graphs is limited, lacking a universal treatment to appeal to different downstream tasks. In this paper, we propose GraphPrompt, a novel pre-training and prompting framework on graphs. GraphPrompt not only unifies pre-training and downstream tasks into a common task template but also employs a

1 Introduction

This paper examines: Generalized Graph Prompt: Toward a Unification of Pre-Training and Downstream Tasks on Graphs. Research question: What is the impact of video-subtitle matching pre-training on downstream video captioning performance across different benchmark datasets?.

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 3.7/10.

3 Results

11 papers retrieved. 7 claims extracted; 0 independently verified. Quality review score: 3.7/10.

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
GRAPHSPROMPT consistently outperforms the baselines across different shots for few-shot node classification.	×	0.04
GRAPHSPROMPT outperforms the baselines when very limited labeled data is given for few-shot graph classification.	×	0.06
GRAPHSPROMPT might be surpassed by some competitive baselines when fed with adequate labeled data for few-shot graph classification.	×	0.04
Without the prompt vector, no prompt usually performs the worst in the four models.	×	0.05
Converting the prompt vector into a linear transformation matrix hurts the performance.	×	0.03
GRAPHSPROMPT achieves 20.21 \pm 11.52 on Flickr 50-shot, 63.03 \pm 12.14 on PROTEINS 1-shot, and 67.04 \pm 11.48 on ENZYMES 1-s	×	0.01
GRAPHSPROMPT achieves 63.03 \pm 12.14 on PROTEINS 5-shot, 51.89 \pm 8.71 on COX2 5-shot, 20.34 \pm 5.01 on ENZYMES 5-shot, and	×	0.01

References

- <http://arxiv.org/abs/2311.15317v5>
- <http://arxiv.org/abs/2401.17773v1>
- <http://arxiv.org/abs/1907.05092v1>