

Impact of Propagation Structure Complexity on CodeT5 Inference Efficiency in Low-Resource Rumor Detection

Assignee Research

June 8, 2026

Abstract

This report synthesises findings from 10 peer-reviewed papers addressing the following research question: What is the impact of varying propagation structure complexity on the inference efficiency of CodeT5 in low-resource rumor detection tasks, as measured by throughput on the Weibo and Twitter rumor. 17 claims were extracted from source literature; 0 were independently verified against retrieved documents. An automated multi-reviewer quality assessment produced a score of 3.5/10. This report is a machine-generated literature synthesis and does not constitute original research.

1 Introduction

This paper examines: A Unified Contrastive Transfer Framework with Propagation Structure for Boosting Low-Resource Rumor Detection. Research question: What is the impact of varying propagation structure complexity on the inference efficiency of CodeT5 in low-resource rumor detection tasks, as measured by throughput on the Weibo and Twitter rumor datasets?.

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 3.5/10.

3 Results

10 papers retrieved. 17 claims extracted; 0 independently verified. Quality review score: 3.5/10.

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
There are no public benchmarks available for detecting low-resource rumors with propagation tree structure in tweets.	×	0.11
The study considers the COVID-19 breaking event as a low-resource domain.	×	0.10
Data was collected from Twitter in English, Cantonese, and Arabic, and from Sina Weibo in Chinese.	×	0.06
The Twitter datasets (English-COVID19, Cantonese-COVID19, Arabic-COVID19) were extended by collecting propagation thread	×	0.02
The Chinese-COVID19 dataset from Sina Weibo gathered rumorous claims from the Sina community management center.	×	0.04
Non-rumorous claims in the Chinese-COVID19 dataset were collected by randomly filtering posts not reported as rumors.	×	0.04
All datasets in the study contain two binary labels: Rumor and Non-rumor.	×	0.05
The EngCovid dataset contains 1,154 events and 60,409 tree nodes.	×	0.02
The ChiCovid dataset contains 4,649 events and 1,956,449 tree nodes.	×	0.02
The CanCovid dataset contains 400 events and 406,185 tree nodes.	×	0.02
The AraCovid dataset contains 399 events and 26,687 tree nodes.	×	0.02
The average depth per tree in the Cantonese-COVID19 (CanCovid) dataset is 143.03.	×	0.01
The proposed framework represents the conversation propagation thread as an undirected topology.	×	0.07
The framework uses a multi-scale Graph Convolutional mechanism to aggregate features from claim semantics and event stru	×	0.13
The framework employs a domain-adaptive contrastive learning paradigm to minimize domain discrepancy.	×	0.13
In the cross-domain experiment with Source TWITTER and Target ChiCovid, the BiGCN model achieved an Accuracy of 0.538 an	×	0.03
In the cross-domain experiment with Source TWITTER and Target CanCovid, the DANN-BiGCN model achieved an Accuracy of 0.6	×	0.03

References

- <http://arxiv.org/abs/2002.12612v2>
- <http://arxiv.org/abs/2204.08143v2>
- <http://arxiv.org/abs/2304.01492v5>