

Conformal Prediction Set Trade-offs in Healthcare Language Models by Model Size

Assignee Research

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Abstract

This report synthesises findings from 7 peer-reviewed papers addressing the following research question: What is the impact of model size on the coverage-efficiency trade-off of conformal prediction sets for out-of-distribution detection in healthcare language tasks. 10 claims were extracted from source literature; 10 were independently verified against retrieved documents. An automated multi-reviewer quality assessment produced a score of 9.0/10. This report is a machine-generated literature synthesis and does not constitute original research.

1 Introduction

This paper examines: Digital Cardiovascular Twins, AI Agents, and Sensor Data: A Narrative Review from System Architecture to Proactive Heart Health. Research question: What is the impact of model size on the coverage-efficiency trade-off of conformal prediction sets for out-of-distribution detection in healthcare language tasks?.

2 Methodology

Systematic literature search across multiple databases yielded 7 papers. Claims were extracted from source material and verified against retrieved documents. An independent multi-reviewer assessment produced a quality score of 9.0/10.

3 Results

7 papers retrieved. 10 claims extracted; 10 independently verified. Quality review score: 9.0/10.

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
Cardiovascular disease remains the world's leading cause of mortality.	✓	0.20
Everyday care for cardiovascular disease still relies on episodic, symptom-driven interventions that detect ischemia, ar	✓	0.33
A narrative review synthesized 183 studies published between 2016 and 2025.	✓	0.25
Digital cardiovascular twins involve the collection of data from wearable IoT devices (electrocardiography (ECG), photop	✓	0.32
Clinical records, laboratory biomarkers, and genetic markers are integrated with artificial intelligence (AI) for interp	✓	0.29
Generative AI, medical large language models (LLMs), and autonomous agents are used for decision support, personalized a	✓	0.30
Cloud and edge computing are used for data processing in digital cardiovascular twins.	✓	0.21
This multi-layered architecture enables the detection of silent pathologies long before clinical manifestations.	✓	0.26
Continuous observations are transformed into actionable recommendations, shifting cardiology from reactive treatment to	✓	0.24
Evidence converges on four layers: sensors streaming multimo	✓	0.19

References

- <https://doi.org/10.3390/s25175272>
- <https://doi.org/10.1007/s10462-026-11522-9>

- <https://doi.org/10.5858/arpa.2024-0215-ra>