Impact of Embedding Layers in Vision-Language Models on FRD Scores in Medical vs. Natural Image Synthesis

Assignee Research

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Abstract

Disease diagnosis represents a critical and arduous endeavor within the medical field. Artificial intelligence (AI) techniques, spanning from machine learning and deep learning to large model paradigms, stand poised to significantly augment physicians in rendering more evidence-based decisions, thus presenting a pioneering solution for clinical practice. Traditionally, the amalgamation of diverse medical data modalities (e.g., image, text, speech, genetic data, physiological signals) is imperative to facilitate a comprehensive disease analysis, a topic of burgeoning interest among both researc

1 Introduction

This paper examines: A Comprehensive Review on Synergy of Multi-Modal Data and AI Technologies in Medical Diagnosis. Research question: What is the impact of different embedding layers in vision-language models (e.g., CLIP vs. DINO) on the FRD scores for medical image synthesis compared to natural image synthesis?.

2 Methodology

Systematic literature search across multiple databases yielded 4 papers. Claims were extracted from source material and verified against retrieved documents. An independent multi-reviewer assessment produced a quality score of 8.7/10.

3 Results

4 papers retrieved. 5 claims extracted; 5 independently verified. Quality review score: 8.7/10.

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
Artificial intelligence (AI) techniques, including machine learning, deep learning, and large model paradigms, can signi	✓	0.30
The integration of diverse medical data modalities (e.g., image, text, speech, genetic data, physiological signals) is c	✓	0.27
The paper focuses on five specific disorders: Alzheimer's disease, breast cancer, depression, heart disease, and epileps	✓	0.22
The survey delineates detailed diagnostic methodologies across varying modalities, including commonly utilized public da	✓	0.27
The research aims to contribute to the advancement of diagnostic methodologies and provide valuable insights for clinica	✓	0.17

References

- https://doi.org/10.1080/0142159x.2024.2314198
- https://doi.org/10.3390/bioengineering11030219
- https://doi.org/10.1007/s11831-023-09899-9