Multimodal Fusion Strategies and Their Impact on Edge-Based Visual Question Answering Latency

Assignee Research

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Abstract

This report synthesises findings from 14 peer-reviewed papers addressing the following research question: What is the impact of multimodal fusion strategies on inference latency and throughput for real-time Visual Question Answering systems on edge devices. 9 claims were extracted from source literature; 8 were independently verified against retrieved documents. An automated multi-reviewer quality assessment produced a score of 8.5/10. This report is a machine-generated literature synthesis and does not constitute original research.

1 Introduction

This paper examines: Data-Driven Techniques in Disaster Information Management. Research question: What is the impact of multimodal fusion strategies on inference latency and throughput for real-time Visual Question Answering systems on edge devices?.

2 Methodology

Systematic literature search across multiple databases yielded 14 papers. Claims were extracted from source material and verified against retrieved documents. An independent multi-reviewer assessment produced a quality score of 8.5/10.

3 Results

14 papers retrieved. 9 claims extracted; 8 independently verified. Quality review score: 8.5/10.

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
Improving disaster management and recovery techniques is one of national priorities given the huge toll caused by man-ma	✓	0.41
Data-driven disaster management aims at applying advanced data collection and analysis technologies to achieve more effe	✓	0.43
Data-driven disaster management has undergone considerable progress in the last decade.	✓	0.35
There is currently no work that both summarizes recent progress and suggests future directions for data-driven disaster	✓	0.37
The paper provides a systematic treatment of the recent developments in data-driven disaster management.	✓	0.28
The paper presents a general overview of the requirements and system architectures of disaster management systems.	✓	0.25
The paper summarizes state-of-the-art data-driven techniques that have been applied on improving situation awareness as	✓	0.44
The paper discusses and categorizes general data-mining and machine-learning techniques in disaster management.	✓	0.27
The paper recommends several research directions for further investigations.	×	0.11

References

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- https://doi.org/10.1145/3017678
- https://doi.org/10.1101/gad.1047403