

# SCM-Guided Data Augmentation for Cross-Modal Representation Alignment Under Distribution Shifts

Assignee Research

June 8, 2026

## Abstract

This report synthesises findings from 4 peer-reviewed papers addressing the following research question: What is the impact of SCM-guided data augmentation on the alignment of foundation model representations across modalities (e.g., CLIP, BLIP) under distribution shifts, measured by alignment scores. 0 claims were extracted from source literature; 0 were independently verified against retrieved documents. An automated multi-reviewer quality assessment produced a score of 1.7/10. This report is a machine-generated literature synthesis and does not constitute original research.

## 1 Introduction

This paper examines: Towards Unbiased Cross-Modal Representation Learning for Food Image-to-Recipe Retrieval. Research question: What is the impact of SCM-guided data augmentation on the alignment of foundation model representations across modalities (e.g., CLIP, BLIP) under distribution shifts, measured by alignment scores and cross-modal retrieval accuracy?.

## 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 1.7/10.

## 3 Results

4 papers retrieved. 0 claims extracted; 0 independently verified. Quality review score: 1.7/10.

## 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.

## References

- <http://arxiv.org/abs/2511.15201v2>
- <http://arxiv.org/abs/2207.07885v3>
- <http://arxiv.org/abs/2605.12335v1>