

# Vendi-RAG Diversity Optimization Enhances FLAN-T5-xl Robustness to Syntactic Distractors

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## Abstract

This report synthesises findings from 12 peer-reviewed papers addressing the following research question: Does optimizing the diversity-weight in Vendi-RAG improve FLAN-T5-xl robustness against syntactic distractors in HANS compared to standard relevance-based RAG baselines. Retrieval-augmented generation (RAG) enhances large language models (LLMs) for domain-specific question-answering (QA) tasks by leveraging external knowledge sources. However, traditional RAG systems primarily focus on relevance-based retrieval and often struggle with. 0 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: Vendi-RAG: Adaptively Trading-Off Diversity And Quality Significantly Improves Retrieval Augmented Generation With LLMs. Research question: Does optimizing the diversity-weight in Vendi-RAG improve FLAN-T5-xl robustness against syntactic distractors in HANS compared to standard relevance-based RAG baselines?.

## 2 Methodology

Systematic literature search across multiple databases yielded 12 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**

12 papers retrieved. 0 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.

### **References**

- <http://arxiv.org/abs/2503.17371v2>
- <http://arxiv.org/abs/2502.11228v2>
- <http://arxiv.org/abs/2404.12342v1>