

# Scalability of CIBER's Evidence Retrieval and Its Impact on Scientific Claim Verification Accuracy with Up to 1000 Documents

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## Abstract

Large Language Models (LLMs) now handle tasks like question answering, summarisation, code generation and dialogue with impressive results. Yet they still suffer from a key issue: hallucination happens when a model generates text that reads well but is factually wrong or not grounded in real evidence. The risk is higher in domains like healthcare, law, finance and research, where inaccurate outputs can lead to real damage. This survey focuses on how to detect hallucination verification in LLMs. We review 5 core detection approaches: retrieval-based, uncertainty-based, embedding-based, learning-base

## 1 Introduction

This paper examines: AI-BASED VERIFICATION OF LLM RESPONSE. Research question: How does the scalability of CIBER's evidence retrieval mechanism affect the accuracy of scientific claim verification when integrating up to 1000 corroborating/refuting documents per claim?.

## 2 Methodology

Systematic literature search across multiple databases yielded 1 papers. Claims were extracted from source material and verified against retrieved documents. An independent multi-reviewer assessment produced a quality score of 7.9/10.

## 3 Results

1 papers retrieved. 6 claims extracted; 6 independently verified. Quality review score: 7.9/10.

## 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
Large Language Models (LLMs) handle tasks like question answering, summarisation, code generation, and dialogue.	✓	0.34
Hallucination in LLMs occurs when a model generates text that is factually wrong or not grounded in real evidence despite	✓	0.21
The risk of LLM hallucination is higher in domains like healthcare, law, finance, and research.	✓	0.24
The survey reviews five core detection approaches: retrieval-based, uncertainty-based, embedding-based, learning-based,	✓	0.34
Truthful QA and HaluEval are popular benchmarks for LLM hallucination verification.	✓	0.22
xVerify and CompassVerifier are verification tools for LLMs.	✓	0.17

## References

- <https://doi.org/10.17148/ijarcce.2026.15574>