

# Improving RAG Recall



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# Query Reformulation



# Improving Recall in RAG Systems

**Recall in RAG determines how effectively relevant documents are retrieved for a query.**

**Higher recall ensures LLMs generate more accurate and comprehensive answers from knowledge sources.**



# Query Expansion Techniques

**Use large language models to generate semantically related query terms and phrases.**

**Enhance retrieval by capturing user intent beyond exact keyword matches.**



# Types of LLM-based Query Expansion Techniques

**Synonym  
expansion**

**Contextual  
expansion**

**Paraphrasing  
expansion**

**Semantic  
role expansion**

**Concept  
expansion**



# Advantages of LLM-based Query Expansion



- Improves recall by retrieving more relevant documents**
- Captures semantic variations and diverse terminology**
- Reduces reliance on exact keyword matches**
- Handles ambiguous or under-specified queries**
- Enhances retrieval for specialized or technical domains**



# | Context Retrieval Methods for RAG Systems



# Context Retrieval Methods

**Parent-document retrieval**

**Window retrieval**



# Advantages of Using Context Retrieval Methods

Improved  
recall

Better  
context preservation

Flexibility  
for queries

Reduced  
information loss

Enhanced  
LLM compatibility

Efficient  
knowledge utilization



# Demo: Query Reformulation

