

RAGAS: Context Entities Recall Metric

What is it?

Measures if the retriever fetched documents containing all important entities (names, dates, places, etc.).

Score: 0-1 (higher = more entities captured)

How it Works

1. Extracts entities from reference answer (names, dates, places)
2. Checks how many of these entities appear in retrieved contexts
3. Score = (entities found) / (total entities in reference)

What You Provide

retrieved_contexts: Documents returned by retriever

reference: Ground truth answer containing expected entities

Step 1: Capture Data from Your RAG Pipeline

```
# In your RAG chatbot code
docs = vector_db.similarity_search(query)
retrieved_contexts = [doc.page_content for doc in docs]

# Save with ground truth containing entities
save_to_logs({
    "question": query,
    "retrieved_contexts": retrieved_contexts,
    "reference": "Flynas flight 123 departs Riyadh at 10:00 AM"
})
```

Step 2: Test with RAGAS

```
from ragas.metrics import ContextEntityRecall
from ragas.llms import llm_factory
from openai import AsyncOpenAI

client = AsyncOpenAI()
llm = llm_factory("gpt-4o-mini", client=client)
scorer = ContextEntityRecall(llm=llm)

test_case = get_from_logs()

result = await scorer.ascore(
    retrieved_contexts=test_case["retrieved_contexts"],
    reference=test_case["reference"]
)
print(result)
```

Example 1: HIGH Score

Reference entities: [Flynas, Flight 123, Riyadh, 10:00 AM] = 4 entities

Retrieved docs contain: Flynas, Flight 123, Riyadh, 10:00 AM

Result: 4/4 entities found → Score: 1.0 (HIGH)

Example 2: LOW Score

Reference entities: [Flynas, Flight 123, Riyadh, 10:00 AM] = 4 entities

Retrieved docs contain: Flynas only

Result: 1/4 entities found → Score: 0.25 (LOW)

Context Recall vs Context Entities Recall

Context Recall: Checks if all CLAIMS are retrieved

Context Entities Recall: Checks if all ENTITIES (names, dates, places) are retrieved

Use Entities Recall for fact-heavy apps (flights, tourism, history)

Key Insight

Best for fact-based applications like airline chatbots where specific entities (flight numbers, times, destinations) are critical. Missing entities = incomplete answers.

Reference

https://docs.ragas.io/en/stable/concepts/metrics/available_metrics/context_entities_recall/