

Retrieval-Augmented Generation (RAG)

100% COMPLETE

RAG basics

Next: Final Assessment

Practice 1: Foundational Text-Based RAG System

In Progress

RAG evaluation

50%

Practice 2: RAG Pipeline Evaluation

Retrieval-Augmented Generation (RAG)

RAG Advanced approaches

Final Assessment

Practice 3: Practice: Hybrid Search + Reranking

Course Tasks

Practice 4: Advanced RAG approaches

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Multimodal RAG

Course Evaluation

Practice 5: Multimodal RAG (Phase 5.1 and 5.2)

Practice 6: Multimodal RAG with ColPali-like approach

Practice 3: Practice: Hybrid Search + Reranking

Grid University

Phase 3: Hybrid Search & Re-ranking

Objective: Improve the relevance of the retrieved textual context.

Tasks:

1

Re-ranking:

- Integrate a **cross-encoder** model to re-rank the top-N results from the hybrid retriever.
- (Optional) Work on a custom approach for re-ranking (graph-based, LLM as an expert, etc)

2

Metadata Integration:

- Extract basic metadata during text processing (e.g., page number, approximate section, content type).
- Experiment with using **metadata filtering** in conjunction with retrieval (e.g., "search for X only in pages 10-20").

3

Sparse & Hybrid Retrieval [optional for interns]:

- Implement a **sparse retrieval** method (e.g., BM25).
- Combine dense and sparse retrieval scores to create a **hybrid retrieval** system.