QUICK ACCESS LINKS

Hybrid RAG System with Automated Evaluation

GitHub Repository: https://github.com/vishalvishal099/Hybrid_RAG_System_with_Automated_Evaluation

Contributors

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Primary Repository

Item	Link
Main Repository	https://github.com/vishalvishal099/Hybrid_RAG_System_with_Automated_Evaluation
Clone Command	`git clone https://github.com/vishalvishal099/Hybrid_RAG_System_with_Automated_Evaluation.git`

Key Files (Direct Links)

Core Implementation

File	Description	Link
chromadb_rag_system.py	Main RAG system	View
app_chromadb.py	Streamlit UI	View
api_chromadb.py	FastAPI backend	View
build_chromadb_system.py	Build script	View
evaluate_chromadb_fast.py	Evaluation script	View
error_analysis.py	Error analysis tool	View

Dataset Files

File	Description	Link
fixed_urls.json	200 fixed Wikipedia URLs	View
questions_100.json	100 Q&A pairs	View
corpus.json	Processed corpus (7,519 chunks)	View

File	Description	Link
adversarial_questions.json	Adversarial questions	View

Evaluation Framework

File	Description	Link
metrics.py	Core metrics (MRR, BERTScore)	View
novel_metrics.py	Novel metrics	View
innovative_eval.py	Innovative techniques	View
comprehensive_metrics.py	Extended metrics	View
run_evaluation.py	Evaluation runner	View

Source Modules

File	Description	Link
data_collection.py	Wikipedia data collector	View
semantic_chunker.py	Semantic chunking	View
rrf_fusion.py	Reciprocal Rank Fusion	View
improved_chunking.py	Improved chunking	View
indexing.py	Indexing module	View

Reports

File	Description	Link
Hybrid_RAG_Evaluation_Report.pdf	PDF Report	Download
Hybrid_RAG_Evaluation_Report.md	Markdown Report	View

Documentation

File	Description	Link
README.md	Main documentation	View
METRIC_JUSTIFICATION.md	Metric justification	View
NEW_FEATURES.md	New features	View
ERROR_ANALYSIS.md	Error analysis	View

Configuration

File	Description	Link
config.yaml	System configuration	View
requirements.txt	Python dependencies	View
setup.py	Package setup	View

Folder Links

Folder	Description	Link
src/	Source modules	View
evaluation/	Evaluation framework	View
data/	Data files	View
docs/	Documentation	View
screenshots/	UI Screenshots	View
submission/	Submission package	View

Quick Start

```
# Clone repository
git clone
https://github.com/vishalvishal099/Hybrid_RAG_System_with_Automated_Evaluation.git
cd Hybrid_RAG_System_with_Automated_Evaluation

# Create virtual environment
python -m venv venv
source venv/bin/activate  # On Windows: venv\Scripts\activate

# Install dependencies
pip install -r requirements.txt

# Build the system
python build_chromadb_system.py

# Run Streamlit Dashboard
streamlit run app_chromadb.py

# Run Evaluation
python evaluate_chromadb_fast.py
```

Last Updated: February 8, 2026