Literature Dataset

A. **Papers Analyzed : -**

The survey paper will analyze recent research works on Agentic Retrieval-Augmented Generation (Agentic RAG) and related adaptive retrieval frameworks published between 2024 and 2025. The reviewed corpus so far include:

[1] [Zhang, Y., et al. (2025). Agentic retrieval-augmented generation: A survey on agentic RAG. arXiv.]

[2] [Kumar, S., et al. (2025). Retrieval-Augmented Generation (RAG) for Fintech: Agentic Design and Evaluation. arXiv.]

[3] [Kumar, A., et al. (2025). Agentic AI: Autonomous intelligence for complex goals—A comprehensive survey. IEEE Access.]

[4] [Li, X., et al. (2025). From generative AI to agentic AI: Foundations, capabilities, and future directions. arXiv.]

[5] [(2025). Domain-specific LLMs, retrieval-augmented generation and agentic AI: A unified architecture for specialized intelligence. SSRN.]

[6] [Singh, A. (2025). Adaptive Agentic RAG systems for improving adaptability and performance in AI-driven Information retrieval. SSRN.]

[7] [(2025). Efficient and Transferable Agentic Knowledge Graph RAG via Reinforcement Learning. arXiv.]

[8] [Li, Y. (2018). Deep Reinforcement Learning: An Overview. arXiv.

[9] [Kaelbling, L. P., Littman, M. L., & Moore, A. W. (1996). Reinforcement Learning: A Survey. Journal of Artificial Intelligence Research.]

[10] [Zhang, K., Yang, Z., & Basar, T. (2021). A Survey on Multi-Agent Deep Reinforcement Learning. Artificial Intelligence Review. Springer.]

[11] [(2025). A Comprehensive Survey on Reinforcement Learning-based Agentic Search: Foundations, Roles, Optimizations, Evaluations, and Applications. arXiv.]

[12] [Luo, H., E, H., Chen, G., Lin, Q., Guo, Y., Xu, F., Kuang, Z., Song, M., Wu, X., Zhu, Y., & Tuan, L. A. (2025). Graph-R1: Towards Agentic GraphRAG Framework via End-to-End Reinforcement Learning. arXiv.]

[13] [Zheng, Q., Sun, Y., Wu, C., Zhao, W., Qiu, P., Yu, Y., Sun, K., Wang, Y., Zhang, Y., & Xie, W. (2025). End-to-End Agentic RAG System Training for Traceable Diagnostic Reasoning. arXiv.]

[14] [Yoo, H. K. (2025). (Agentic RAG: Reinforcement Learning-Based Insight-Centric Search Generation). KoreaScience.]

[15] [Bagan, N. (2025). Optimizing Agentic Retrieval-Augmented Generation Using Reinforcement Learning-Based Methods .Leiden Institute of Advanced Computer Science (LIACS).]

[15] [Nagori, A., Casonatto, R. A., Gautam, A., Sai Cheruvu, A. M., & Kamaleswaran, R. (2025). Open-Source Agentic Hybrid RAG Framework for Scientific Literature Review. arXiv.]

B. Selection Criteria : -

The papers were / will be selected using the following criteria:

- Published between 2024–2025 to ensure recency.
- Explicit focus on Agentic RAG, adaptive retrieval, or autonomous LLM orchestration.
- Inclusion of architectural description, methodology explanation, or evaluation discussion.
- Clear identification of retrieval strategies, agent frameworks, or domain-specific adaptations.
- Availability of experimental results or structured analysis.

C. Inclusion Criteria : -

A study was / will be included if it:

- Proposed or analyzed an agent-based retrieval architecture.
- Introduced adaptive, goal-oriented, corrective, or hierarchical mechanisms.
- Reported advantages, limitations, or evaluation metrics.
- Discussed domain-specific or multi-agent system design.
- Studies lacking methodological clarity or relevance to agentic retrieval were excluded.

D. Benchmarks Referenced in the Surveyed Papers : -

The analyzed work will be referencing the following evaluation benchmarks:

- HotpotQA (multi-hop reasoning)
- Natural Questions (NQ)
- MS MARCO
- TriviaQA
- Enterprise Knowledge Bases (curated internal datasets)
- Biomedical QA datasets (e.g., PubMed-based corpora)
- Financial regulatory corpora
- Legal document repositories
- Domain-specific industrial knowledge bases

These benchmarks were used across studies to evaluate:

- Retrieval accuracy
- Multi-hop reasoning
- Hallucination reduction
- Grounded response quality
- Task completion efficiency

E. Domains to be considered : -

The surveyed methodologies will be spanning across multiple application domains:

1. Open-Domain Question Answering
2. Healthcare and Biomedical Retrieval
3. Financial and Regulatory Analysis
4. Legal Document Processing
5. Enterprise Knowledge Management
6. Multi-Agent Task-Oriented Systems
7. Complex Goal-Oriented Planning

This diversity enables cross-domain comparison of scalability, adaptability, and hallucination mitigation performance.
