

**Yogesh Haribhau Kulkarni**

• You

AI Advisor (Helping organizations in their AI journeys) | PhD (Geometric Modeling) | Tech Colum...
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🔔 The Hidden Problem with the Naive RAG Systems 🔔 Most (Naive, PoC level) RAG (Retrieval Augmented Generation) implementations are fundamentally broken when it comes to real-world documents.

Here's why: 🧩

➡ The Problem: Naive RAG treats everything as uniform text, leading to massive information loss. When you upload a technical report with tables, diagrams, and code snippets, conventional systems either skip non-text content entirely or convert structured data into poorly formatted text.

Imagine asking "What was the Q3 revenue growth?" and getting gibberish because your RAG system destroyed the table structure. 📉

➡ The Reality Check: Most of the business documents contain mixed content, tables, diagrams, charts. Yet our AI systems are still stuck in the "text-only" era while we're living in a multi-modal world.

➡ The Solution: I've been working on a multi-modal RAG architecture that:

- ✅ Preserves semantic boundaries between content types
- ✅ Uses specialized AI models for each modality (LLM for text, VLM for images, text-to-SQL for tables)
- ✅ Maintains structural relationships while enabling precise queries
- ✅ Processes code blocks with syntax awareness

➡ The Game-Changer: Instead of asking "What's in this document?" and getting vague summaries, you can now ask:

- "Show me the performance comparison table"
- "Explain the architecture diagram"
- "What does this code function do?"

And get precise, contextually accurate responses. 🎯

The future of document AI isn't just about reading text, it's about understanding information in all its forms. Are you ready to move beyond text-only limitations?

➡ Detailed explanation at <https://lnkd.in/dMeTM32x>

➡ Sample code-base (not production level or ready-to-use, but just for reference, still under development) at <https://lnkd.in/dpEqVw34>

What's your experience with RAG systems handling complex documents? Drop your thoughts below! 🗣️

#RAG #MultiModalAI #DocumentAI #LLM #MachineLearning #ArtificialIntelligence #TechInnovation
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