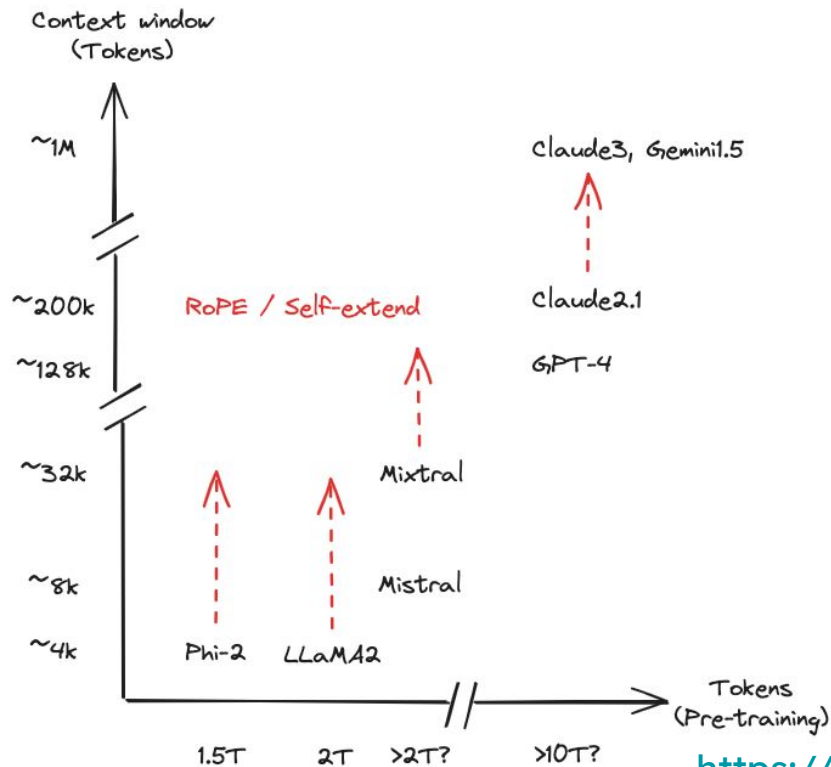


RAG from scratch: Overview

Lance Martin
Software Engineer, LangChain
[@RLanceMartin](https://twitter.com/RLanceMartin)

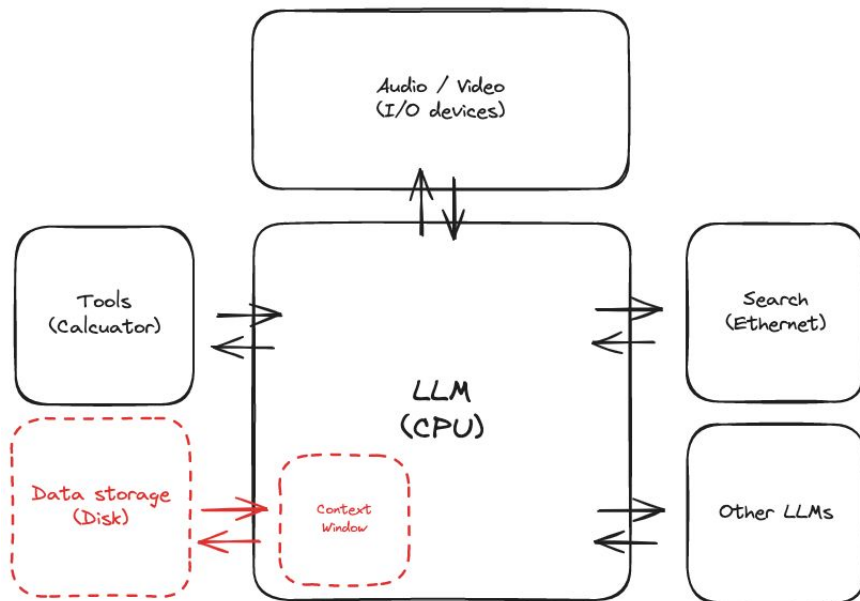
> 95% of the world's data is “private”, but we can “feed it” to LLMs



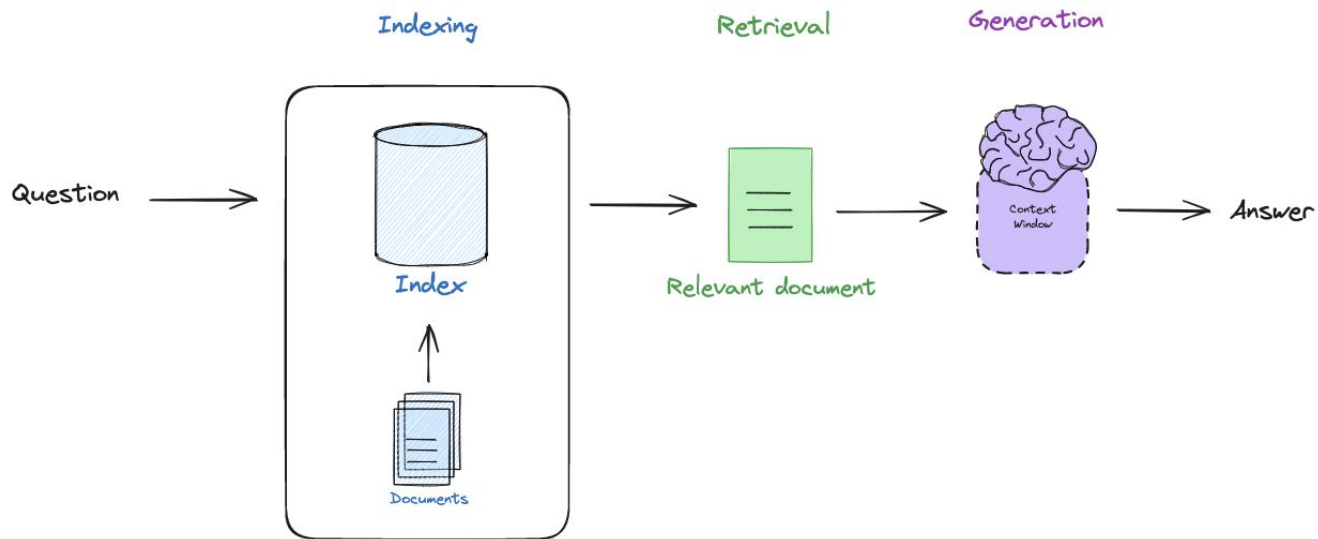
<https://huggingface.co/blog/mixtral>

<https://x.com/RihardJarc/status/1778082161595208124>

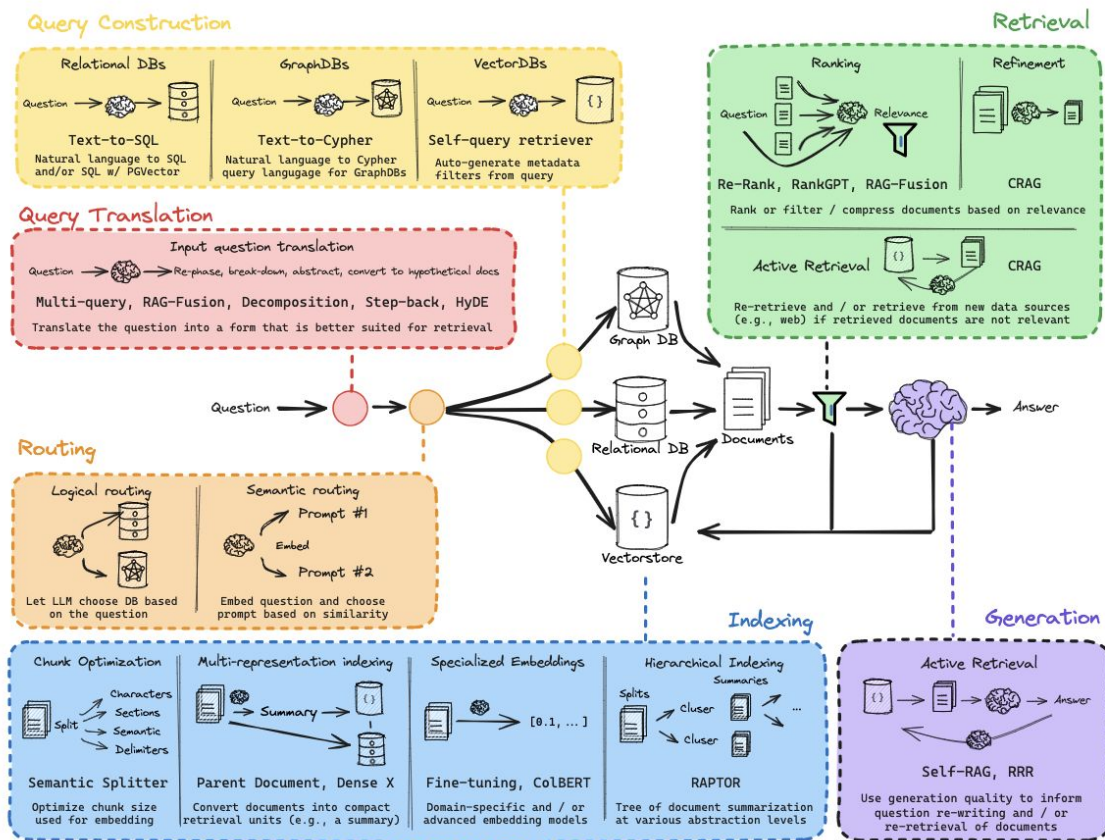
Connecting LLMs to external data is a central need



Retrieval Augmented Generation



We'll start from scratch, and build up to state of the art in RAG



Outline

Basics

- Indexing
- Retrieval
- Generation

Advanced

- Query transformations
- Routing
- Query construction
- Indexing
- Retrieval
- Generation

Code walk-through