

Observations & Key Learnings

1. Strengths of the Model:

1. **Fast & Efficient Retrieval** – FAISS-based retrieval allows for quick search through large books. **Context-aware QA** – The transformer-based model provides meaningful responses on on
2. retrieved context.
Scalability – The system can handle multiple books with an optimized document store.

2. Challenges & Limitations:

- **Handling Large Books** – Indexing large PDFs requires more memory and may slow down response time.
- **Context Length Constraints** – Transformer models have token limits, which can truncate answers.
- **Dependency Issues** – FAISS and Haystack can be tricky to install, requiring careful environment setup.

3. Future Improvements

- **Support for Multi-turn Conversations** – Implement memory to handle follow-up questions.
- **Better Handling of Large Texts** – Explore hierarchical indexing or long-context models (e.g., LongFormer).
- **Fine-tuning on Custom Datasets** – Train the model on domain-specific books (medical, legal, etc.)