

# 4. RAG Hello World

## Tạo application trả lời câu hỏi dựa vào thông tin tham khảo từ Blog Huyen Chip

Chip Huyen

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### 7 reasons not to join a startup and 1 reason to

Feb 27, 2021 • Chip Huyen

In 2018, I wrote [Career advice for recent Computer Science graduates](#) about joining a big company instead of a startup after college.

In 2019, when I left NVIDIA, I wrote [Lessons learned after my first full-time job](#) about leaving a big company for a startup.

Now that I've left my first full-time job at a startup, I want to revisit the topic. This is based on some personal experience, but most come from friends' experiences, including the intensive note on startups from a friend who had worked at 3 startups before and who would like to remain anonymous. I hope that it'll give some pointers to those trying to decide whether to take the leap.

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#### One reason to join a startup

There are many reasons not to join a startup. You just need one good reason to join. The reason is that it's all worth it. I once read somewhere that joining startups is the only way to get 15 years of experience in 5 years. I couldn't agree more.

I learned so much during my time at Snorkel, across different disciplines, from engineering to hiring to sales and marketing. I learned how to structure a codebase, automate tests, develop the hiring pipeline, even use fancy terms during go-to-market meetings. I was exposed to so many problems I wouldn't have been exposed to no matter how much time I spend at big companies.

I learned a lot more about the MLOps space because when working at a startup, you just have to keep an eye out for potential competitors/customers/partners. I also became better at evaluating startups in the space.

You might get frustrated at a startup, but this frustration will make you realize what you want and what you don't want in your career. You might not get rich at a startup, but all the skills you learn there might help you get rich in the future.



Lý do tôi nên join 1 công ty start-up

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## 4. RAG Hello World - Chuẩn bị dữ liệu (Indexing)

### Step 1: Load

```
# Load and chunk contents of the blog
loader = WebBaseLoader(
    web_paths=("https://huyenchip.com/2021/02/27/why-not-join-a-startup.html",),
    bs_kwargs=dict(
        parse_only=bs4.SoupStrainer(
            class_=("post-content", "post-title", "post-header")
        )
    ),
)
docs = loader.load()
```

## 4. RAG Hello World - Chuẩn bị dữ liệu (Indexing)

7 reasons not to join a startup and 1 reason to

Chunk 0

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Chunk 1

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Chunk 2

Now that I've left my first full-time job at a startup, I want to revisit the topic. This is based on some personal experience, but most come from friends' experiences, including the intensive note on startups from a friend who had worked at 3 startups before and who would like to remain anonymous. I hope that it'll give some pointers to those trying to decide whether to take the leap.

```
text_splitter = RecursiveCharacterTextSplitter(chunk_size=400, chunk_overlap=10)
all_splits = text_splitter.split_documents(docs)
```

```
all_splits[1].page_content
```

```
'In 2018, I wrote Career advice for recent Computer Science graduates about joining a big company instead of a startup after college.\nIn 2019, when I left NVIDIA, I wrote Lessons learned after my first full-time job about leaving a big company for a startup.'
```

```
all_splits[2].page_content
```

```
'Now that I've left my first full-time job at a startup, I want to revisit the topic. This is based on some personal experience, but most come from friends' experiences, including the intensive note on startups from a friend who had worked at 3 startups before and who would like to remain anonymous. I hope that it'll give some pointers to those trying to decide whether to take the leap.'
```

## 4. RAG Hello World - Chuẩn bị dữ liệu (Indexing)

### Step 3: Storage

```
from langchain_core.vectorstores import InMemoryVectorStore
from langchain_openai import OpenAIEmbeddings

embeddings = OpenAIEmbeddings(model="text-embedding-3-large", api_key=api_key)
vector_store = InMemoryVectorStore(embeddings)

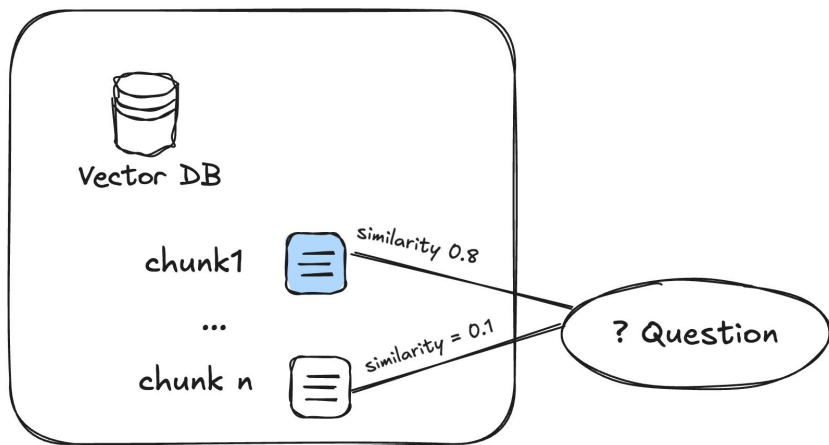
_ = vector_store.add_documents(documents=all_splits)
```

## 4. RAG Hello World - Truy vấn (Retrieval)

```
question = "What is the main reason to join a startup company?"
```

### Step 1 Retrieval

```
retrieved_docs = vector_store.similarity_search(question, k=2)  
retrieved_docs_str = "\n\n".join(doc.page_content for doc in retrieved_docs)
```

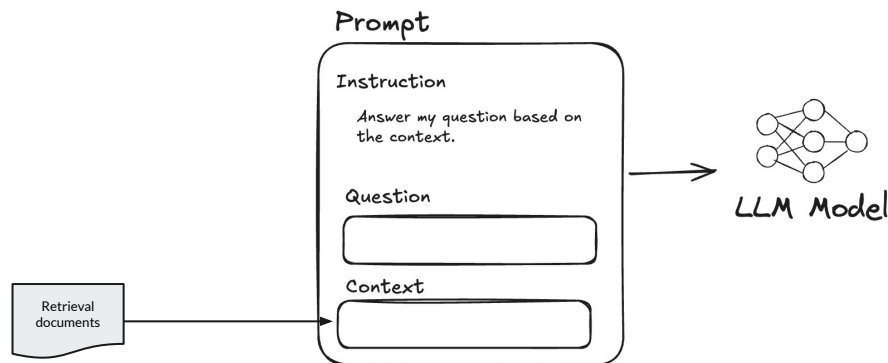


One reason to join a startup

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This can actually be a reason why you should join a startup – you'll learn to stick out for yourself. If you know what you want and are proactive about it, you might even be able to assume a leadership role after a very short period of time. Joining a startup can also be a much faster way to climb big co's ladders. For example, after 3 years at a startup, you became a team lead of 15 engineers,

## 4. RAG Hello World - Truy vấn (Retrieval)



### Step 2: Generate answer

```
template = """  
Answer my question based on the context.  
  
Question: {question}  
Context: {context}  
"""  
  
prompt = PromptTemplate(input_variables=["question", "context"], template=template)  
  
llm = ChatOpenAI(model="gpt-4o-mini", api_key=api_key)
```

```
messages = prompt.invoke({"question": question, "context": retrieved_docs})  
response = llm.invoke(messages)
```

```
print(response.content)
```

The main reason to join a startup company is that it offers the opportunity to gain significant experience in a short period of time, potentially acquiring 15 years of experience in just 5 years. Additionally, startups provide a chance to take on leadership roles quickly and to learn how to advocate for oneself in a dynamic environment.