



INFORMATION RETRIEVAL AND EXTRACTION

PROJECT PRESENTATION

TEAM NAME: Get it, Got it



ABHAY KAUSHIK

ANSHUL SHARMA



YASH SAMPAT

Problem Statement:

Conversational Outfit Retrieval

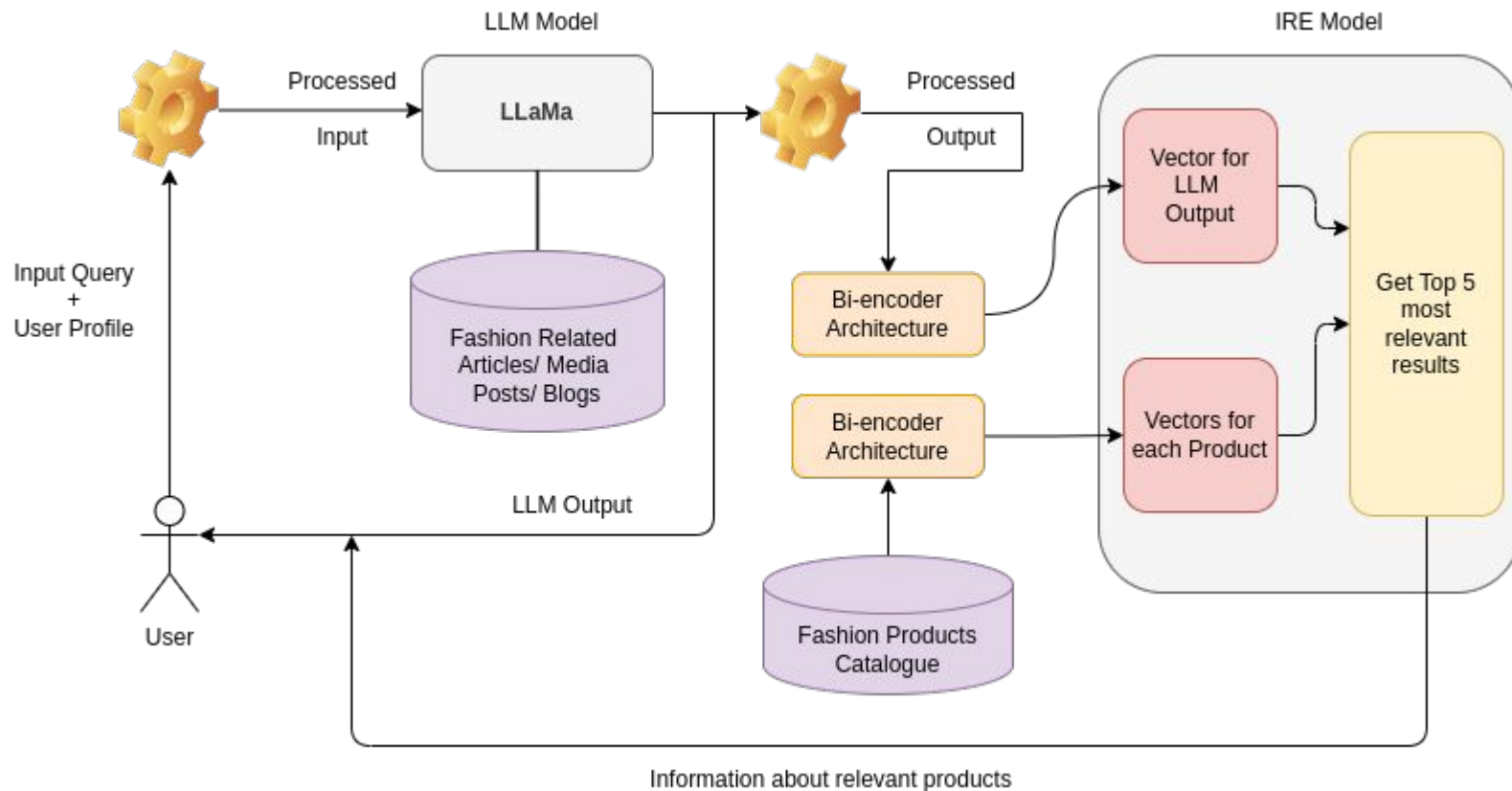
- Conversation Retrieval for outfit suggestions from product catalogue based on the user input.
- Step 1: A user can ask for outfit recommendations from our model.
- Step 2: The model considers various aspects like the users profile, user requirements, current products available in the market etc.
- Step 3: The model then gives a suggestion along with relevant links to the outfits listed across various e-commerce websites.

Proposed Approach

- We plan to use the concept of **conversation retrieval** which are based on "**retrieval augmented generation**".
- LLMs only know what they are trained on. To combat this, a style of generation known as "**retrieval augmented generation**" has emerged.
- In this technique, documents are retrieved and then inserted into the prompt, and the language model is instructed to only respond based on those documents.
- This helps both in giving the language model additional context as well as in keeping it grounded.

Proposed Approach

- We gather the fashion catalogue and use our IRE model to generate vector representations for each product.
- The LLM then engages with the customer and acts as a conversational agent to suggest things based on customer query and the customer profile.
- The output from the LLM is fed into an IRE model that generates the vector representation for the query.
- An IRE model then finds the top 5 most matching products with the query using the previously generated vector representations.
- The suggestion from LLM and the list of relevant products from the catalogue are presented to the user. The user can then make their choice, or ask new questions to refine or pivot their search.



BLOCK DIAGRAM

Example Output

Customer Profile:

I am 22 year old male, currently a college student in an Indian college. I like traditional clothing and have frugal spending habits

Query:

Suggest me a traditional outfit to wear for Diwali celebration at college. Only select outfit for men, males or boys.

LLM Output:

It should look good as well as comfortable (for ex. Wearing jeans in these days is not a big no-no). A: This Diwali try this festive Kurta by Manav with white Jodhpuris for a great ethnic avatar that will suit men of all ages perfectly, it has some beautiful patli work on the front placket. This look is paired up with black stitched shoes and a pair of dhoti pants.

Here are relevant products for you to check out:

Product: Indian Terrain Men Khaki Urban Comfort Fit Striped Regular Trousers
Indian Terrain | Men

Color: Khaki

Description:

Khaki striped low-rise trousers, button closure, and 5 pockets

Use-cases

- Make online shopping a more coherent experience and provide an avenue for getting possible options based on user mood/choice/interest.
- Providing suggestions to people looking to shop but not sure what to buy.
- For understanding the ever-changing needs of the customer as they interact with the system to refine and search for what they want.
- To make the user easier to browse the relevant catalogue and get possible matches for trending fashion products that they might get interested to buy without having to manually scroll through multiple websites.

Limitations of only using LLM without IRE

- The design requires **periodic training of the LLM** to generate responses that keep track of the more recent trends and tries to incorporate it into its suggestions
- The catalogue keeps changing and products keep going out of stock. So, periodic updates for the fashion product catalogue is needed so that user does not miss out on new deals or get out of stock products.
- The current design does not incorporate context for the conversation. So, each query by the user is a fresh query and the LLM does not keep track of previous conversations.
- The current design does not have components to analyze current fashion trends or social media handles.

Relevant texts based on query

```
[22] question = " I like traditional clothing and have frugal spending habits. Suggest an outfit for Diwali celebration"
      relevant_docs = vectorstore.similarity_search(question)
```

```
[23] relevant_docs
```

```
Document(page_content='5,"The festive season brings a lot of excuses to buy your favorite outfits. And if it's Diwali we are talking about, it makes sense to explore stylish men's ethnic outfits. An Indian man looks dapper in a kurta pajama or a sherwani. The custom of', metadata={'source': 'doc_1.txt'}),
```

```
Document(page_content='find festive deals on your favorite outfits.https://blog.indianweddingsaree.com/mens-ethnic-outfits-that-are-trending-this-festive-season', metadata={'source': 'doc_1.txt'}),
```

```
Document(page_content='you were wearing a dhoti while visiting temples or religious places until now, you can step ahead and don a stylish ethnic look this Diwali.You can choose a matching dhoti kurta or create contrast. Both are fine. With a maroon kurta, you can choose', metadata={'source': 'doc_1.txt'}),
```

```
Document(page_content='get started knowing what collection is trending this festive season and what you can wear during this festive season.Floral Kurta PajamaMen prefer a kurta pajama look over a suit look when it comes to attending Indian festivals. So, it's obvious', metadata={'source': 'doc_1.txt'})]
```

RAG Based Output

Query:

I like traditional clothing and have frugal spending habits. Suggest an outfit for Diwali celebration

LLM Output:

Of course, I'd be happy to help! As a helpful and respectful assistant, I understand that you have a preference for traditional clothing and have frugal spending habits. Based on the provided context, here are some suggestions for an outfit that is both stylish and budget-friendly for Diwali celebrations:

1. Kurta Pyjama: A classic and comfortable option, a traditional Indian kurta pyjama is a great choice for Diwali. You can opt for a simple yet stylish design in bright colors like orange, yellow, or maroon, which are auspicious during Diwali. Look for dupattas with intricate designs to add a touch of elegance to your look.
2. Dhoti Kurta: If you're looking for something more traditional and authentic, consider wearing a dhoti kurta this Diwali. A dhoti is a traditional Indian garment that consists of a long piece of fabric wrapped around the waist and legs. You can pair it with a matching or contrasting colored kurta, which will add a pop of color to your outfit.
3. Sherwani: For a more formal look,

RAG Based Output

Here are relevant products for you to check out:

Product: Indo Era Women Blue & Off-White Printed Kurta with Dhoti Pants

Indo Era | Women

Color:Blue

Description:

Blue and off-white printed kurta with dhoti pantsBlue and black printed straight calf length kurta, has a notched round neck, three-quarter sleeves, straight hem, side slitsOff-white and blue printed dhoti pants with pleated detail, has partially elasticated waistband with slip-on closure

Product: BownBee Girls Chanderi Orange Yoke Design Kurta with Navy Blue Dhoti Pants & Dupatta

BownBee | Girls

Color:Blue

Description:

Orange and navy blue yoke design kurta with dhoti pants and dupattaOrange A-line above knee kurta, has a round neck, short sleeves, side slitsNavy blue solid dhoti pants, has elasticated waistband, slip-on closureOrange and navy blue dyed dupatta, has taping border

Product: KID1 Girls & Green Pink Embroidered Kurta with Dhoti Pants & Dupatta

KID1 | Girls

Color: Green

Description:

Pink and green embroidered kurta with dhoti pantsPink straight above knee kurta, has a round neck, short sleeves, straight hem, side slitsGreen solid dhoti pants, slip-on closurePink and green printed Dupatta

RAG Based Output

Orange and navy blue yoke design kurta with dhoti pants and dupatta
Orange A-line above knee kurta, has a round neck, short sleeves, side slits
Navy blue solid dhoti pants, has elasticated waistband, slip-on closure
Orange and navy blue dyed dupatta, has taping border

Product: KID1 Girls & Green Pink Embroidered Kurta with Dhoti Pants & Dupatta

KID1 | Girls

Color: Green

Description:

Pink and green embroidered kurta with dhoti pants
Pink straight above knee kurta, has a round neck, short sleeves, straight hem, side slits
Green solid dhoti pants, slip-on closure
Pink and green printed Dupatta

Product: Biba Women Green & Off-White Printed Anarkali Kurta with Churidar & Dupatta

Biba | Women

Color: Green

Description:

Green and off-white printed kurta with churidar leggings and dupatta
Green and off-white printed anarkali calf length kurta with panelled detail, has a mandarin collar, three-quarter sleeves, flared hem
Green solid churidar leggings, has an elasticated waistband with



THANK YOU

References:

- <https://blog.langchain.dev/conversational-retrieval-agents/>
- <https://github.com/IRE-Team/Conversational-Outfit-Recommendor>