

Project Report: Fashion Search AI

Objectives: The primary goal of this project is to develop an AI-powered fashion query response system that delivers detailed and user-friendly responses to fashion-related queries. By leveraging AI models, the system aims to enhance user experience by providing informative and contextually relevant answers, helping users find fashion items that match their preferences.

Design: The project consists of two main components: the search layer and the generation layer.

- **Search Layer:** Responsible for retrieving relevant fashion items from the dataset based on keyword matching or predefined criteria.
- **Generation Layer:** Utilizes advanced AI models like GPT-3.5 to generate detailed responses, incorporating context and producing natural language replies.

Implementation: The implementation process involved multiple steps, including data preprocessing, model integration, and query response generation.

Data Preprocessing:

- The CSV dataset was formatted to improve data quality and readability.
- Blank entries were replaced, decimal points were standardized, and unnecessary columns were removed.
- Text columns were cleaned to remove HTML tags and extraneous characters.

Model Integration:

- Advanced AI models such as GPT-3.5 were integrated into the system to generate responses to user queries.
- Queries were processed through the model to generate detailed, contextually relevant responses.

Query Response Generation:

- User queries were processed through both the search layer and the generation layer.
- The search layer retrieved relevant fashion items from the dataset.
- The generation layer employed AI models to create detailed, natural language responses tailored to user queries, incorporating contextual information.

Query 1 : I am looking for a office wear saree.

Search Layer

The screenshot shows a Jupyter Notebook interface with the title "Fashion Search AI.ipynb". The code cell contains the query "I am looking for a office wear saree." and the output shows three search results:

- Top 3 Search Results:
 - ID: 16340176 (Orange saree)
 - ID: 16909300 (White saree)
 - ID: 11492056 (Mustard saree)
- Metadatas table:

	Documents	Distances	IDs
0	{'Brand': 'Triveni', 'Colour': 'Orange', 'Desc...}	Design Details Orange saree</li...	0.303548 16340176
1	{'Brand': 'Suta', 'Colour': 'Off White', 'Desc...}	Design Details Off white and bl...	0.304068 16909300
2	{'Brand': 'Chhabra 555', 'Colour': 'Mustard', ...}	One Minute Saree Wearing saree is no...	0.308331 11492056

Generation Layer

The screenshot shows a Jupyter Notebook interface with the title "Fashion Search AI.ipynb". The code cell contains the query "I am looking for a office wear saree." and the output is a generated response:

Based on your query for an office wear saree, here are the top 3 relevant results:

1. Name: "Elegant Office Wear Saree"
Brand: Silk Symmetry
2. Name: "Professional Chic Saree"
Brand: Corporate Couture
3. Name: "Formal Work Attire Saree"
Brand: Boardroom Elegance

For more detailed information such as colors, fabric, and pricing, I recommend visiting our website.

The generated response includes three images of sarees with their IDs:

- ID: 11492056 (Mustard saree)
- ID: 16340176 (Orange saree)
- ID: 16909300 (White saree)

Query 2 : I am looking for some casual kurta

Search layer

The screenshot shows a Jupyter Notebook interface with Python code and search results. The code prints a warning about an existing embedding and then displays three search results:

```
print(f"Image not found for item ID: {item_id}")
plt.tight_layout()
plt.show()

WARNING:chromadb.segment.impl.metadata.sqlite:Insert of existing embedding ID: I am looking for some casual kurta
WARNING:chromadb.segment.impl.vector.local_persistent_hnsw:Add of existing embedding ID: I am looking for some casual kurta
Not found in cache. Found in the main collection.
Query: I am looking for some casual kurta
```

Top 3 Search Results

ID	Image Preview
14951330	
18200286	
16907670	

Metadata

Documents	Distances	IDs
0	0.262192	14951330
1	0.264023	18200286
2	0.266627	16907670

1s completed at 8:06 PM

Generation layer

The screenshot shows a Jupyter Notebook interface with Python code and generated recommendations. The code prints a message about sarees not being included and lists three recommended outfit options:

```
Based on the top 3 search results, it appears that sarees specifically designed for office wear are not included. However, I can suggest some office-appropriate ethnic wear options based on the search results.
1. **Sea-Green Floral Print Cotton Kurta Set by Libas**:
   - **Brand**: Libas
   - **Description**: This is a sea-green straight-fit floral print cotton kurta set.
   - Though this item is not a saree, you can consider this elegant ethnic outfit for a professional look in the office setting.

2. **Beige Kurta with Trousers by Ahalyaa**:
   - **Brand**: Ahalyaa
   - **Description**: A simple yet stylish beige kurta paired with trousers.
   - While not a saree, this ensemble offers a sophisticated and comfortable office wear option.

3. **Multicoloured Checked Kurta with Trousers by Taavi**:
   - **Brand**: Taavi
   - **Description**: This outfit features a multicoloured checked kurta paired with trousers.
   - While different from a saree, this attire can be a stylish choice for workwear with a touch of traditional elements.
```

For more diverse options and specific office wear sarees, you may want to explore specialized ethnic wear stores or online retailers that offer a wider range of office-appropriate sarees in various colors and styles.

Generated Outfits

ID	Image Preview
16907670	
14951330	
18200286	

Query 3 : I am looking for winter jackets of size small preferable blue in colour

Search layer

Fashion Search AI.ipynb

```
plt.tight_layout()
plt.show()
```

WARNING:chromadb[segment.impl.metadata.sqlite]:insert of existing embedding ID: I am looking for winter jackets of size small preferable blue in colour
WARNING:chromadb[segment.impl.vector.local_persistent_hnsw]:Add of existing embedding ID: I am looking for winter jackets of size small preferable blue in colour
Not found in cache. Found in the main collection.
Query:
I am looking for winter jackets of size small preferable blue in colour

Top 3 Search Results

ID	Image	Description	Distance	ID
18145128				
15257760				
16810028				

Metadata Documents Distances IDs

0 {'Brand': 'FREAKINS', 'Colour': 'Blue', 'Descri... Pick this smart jacket to keep yourself warm t... 0.273219 18145128

1 {'Brand': 'Campus Sutra', 'Colour': 'Blue', 'D... Blue colourblocked windcheater open front jack... 0.292363 15257760

2 {'Brand': 'Chkokko', 'Colour': 'Blue', 'Descri... Blue colourblocked lightweight sporty jacket, ... 0.296466 16810028

1s completed at 8:11 PM

Generation layer

Fashion Search AI.ipynb

```
plt.tight_layout()
plt.show()
```

Based on your query for a winter jacket of size small in preferably blue color, I have found some relevant options for you:

- **Chkokko Blue Colourblocked Lightweight Sporty Jacket**
- **Brand:** Chkokko
- **Description:** Blue colourblocked lightweight sporty jacket, suitable for winter wear.
- **FREAKINS Blue Smart Jacket**
- **Brand:** FREAKINS
- **Description:** Pick this smart jacket to keep yourself warm during the winter season.
- **Campus Sutra Blue Colourblocked Windcheater Jacket**
- **Brand:** Campus Sutra
- **Description:** Blue colourblocked windcheater open front jacket, perfect for chilly weather.

Please note that the provided descriptions contain general details about the jackets. For specific sizing, availability, and pricing information, I recommend visiting our website page for further details.

These jackets might be suitable for your winter wardrobe needs. Feel free to explore more about these options to find the perfect one that fits your style and requirements.

ID	Image	Description
16810028		
18145128		
15257760		

3s completed at 8:13 PM

Query 4 : I want a blue saree that can be used in festive seasons. it should have some embroidery work

Search layer

The screenshot shows a Jupyter Notebook interface with the title "Fashion Search AI.ipynb". In the code cell, a search query is run:

```
WARNING:chromadb.segment.impl.metadata.sqlite:Insert of existing embedding ID: I want a blue saree that can be used in festive seasons. it should have some embroidery work
WARNING:chromadb.segment.impl.vector.local_persistent_hnsw:Add of existing embedding ID: I want a blue saree that can be used in festive seasons. it should have some embroidery work
Not found in cache. Found in the main collection.
Query:
I want a blue saree that can be used in festive seasons.
it should have some embroidery work
```

The results are displayed in a "Top 3 Search Results" section:

ID	Image Preview
14984822	
15040028	
16590048	

Below the images is a table with columns: Metadatas, Documents, Distances, and IDs. The data is as follows:

Metadatas	Documents	Distances	IDs
0 {'Brand': 'Saree mall', 'Colour': 'Cream', 'De...'	Accentuate your graceful, feminine look by don...	0.240266	14984822
1 {'Brand': 'Tikhi Imli', 'Colour': 'Navy Blue',...	Dress up or dress down this modish saree for a...	0.242609	15040028
2 {'Brand': 'Mitera', 'Colour': 'Blue', 'Descrip...	Pick this elegant saree for your next special ...	0.245293	16590048

At the bottom, there are "Next steps:" buttons: "Generate code with results_df", "View recommended plots", and "New interactive sheet". A status bar at the bottom right indicates "completed at 8:15 PM".

Generation layer

The screenshot shows a Jupyter Notebook interface with the title "Fashion Search AI.ipynb". In the code cell, a plot is generated:

```
plt.show()
```

The generated text provides details about the search results:

Based on your query for a blue saree with embroidery work suitable for festive seasons, here are the top 3 relevant results from our dataset:

- Item: Modish Navy Blue Saree
Brand: Tikhi Imli
Description: Dress up or dress down this modish saree for a stunning festive look. The navy blue color and intricate embroidery work make it a perfect choice for special occasions.
- Item: Elegant Blue Saree
Brand: Mitera
Description: Pick this elegant blue saree for your next special event. The saree features beautiful embroidery work that adds a touch of sophistication to your festive ensemble.
- Item: Cream Saree with Blue Embroidery
Brand: Saree mall
Description: Accentuate your graceful, feminine look with this cream saree adorned with intricate blue embroidery. This saree is a versatile choice for various festive occasions.

These sarees meet your criteria of being blue in color with embroidery work, making them ideal for festive seasons. You can explore further details and styles of these sarees by visiting our website.

Below the text are three images corresponding to the search results:

ID	Image Preview
15040028	
14984822	
16590048	

At the bottom, there is a "Start coding or generate with AI" button. A status bar at the bottom right indicates "completed at 8:17 PM".

Query 5 : I want an outfit that can be used in summer season for a trip

Search layer

FashionSearch AI.ipynb

```

print(f"Image not found for item ID: {item_id}")

plt.tight_layout()
plt.show()

results_df

```

Found in cache:
Query:
I want an outfit that can be used in summer season for a trip

Top 3 Search Results

ID	Image Preview
18849818	
18187912	
18335430	

IDs **Documents** **Distances** **Metadata**

ID	Description	Distance	Metadata
0	Purple and yellow solid basic jumpsuit ,has a ...	0.278614342212677	{'Brand': 'DressBerry', 'Colour': 'Purple', 'D...
1	18187912 This clothing set consists of Top and Trousers... 0.29150494933128357	{'Brand': 'THE SILHOUETTE STORE', 'Colour': 'P...	
2	2 18335430 Yellow and white printed playsuit with waist... 0.2941435754852295	{'Brand': 'The Vanca', 'Colour': 'Yellow', 'De...	

Next step: Generate code with results. (F) View recommended notes. View interactive sheet. 0s completed at 8:18 PM

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Generation layer

FashionSearch AI.ipynb

```

plt.tight_layout()
plt.show()

```

Based on the top 3 search results from the fashion dataset, I have found some trendy options for your summer trip outfit:

- **Purple and Yellow Solid Basic Jumpsuit by DressBerry:**
- **Description:** This jumpsuit offers a stylish and comfortable option for your summer trip. It features a solid pattern with a combination of purple and yellow colors.
- **Brand:** DressBerry
- **ID:** 18849818
- **Yellow and White Printed Playsuit by The Vanca:**
- **Description:** This printed playsuit with a waist tie detail is a fun and playful choice for your summer adventures. The yellow and white combination adds a bright and cheerful touch.
- **Brand:** The Vanca
- **ID:** 18335430
- **Clothing Set with Top and Trousers by The Silhouette Store:**
- **Description:** This clothing set includes a top and trousers, offering versatility and style for your summer trip. The specific design details provide a chic and trendy look.
- **Brand:** THE SILHOUETTE STORE
- **ID:** 18187912

These fashion items from different brands provide a variety of options to suit your style preferences for a summer trip outfit. You can explore these pieces for a fashionable and comfortable

ID	Image Preview
18187912	
18335430	
18849818	

4s completed at 8:19 PM

could not connect to the reCAPTCHA service. Please check your internet connection and reload to get a reCAPTCHA challenge.