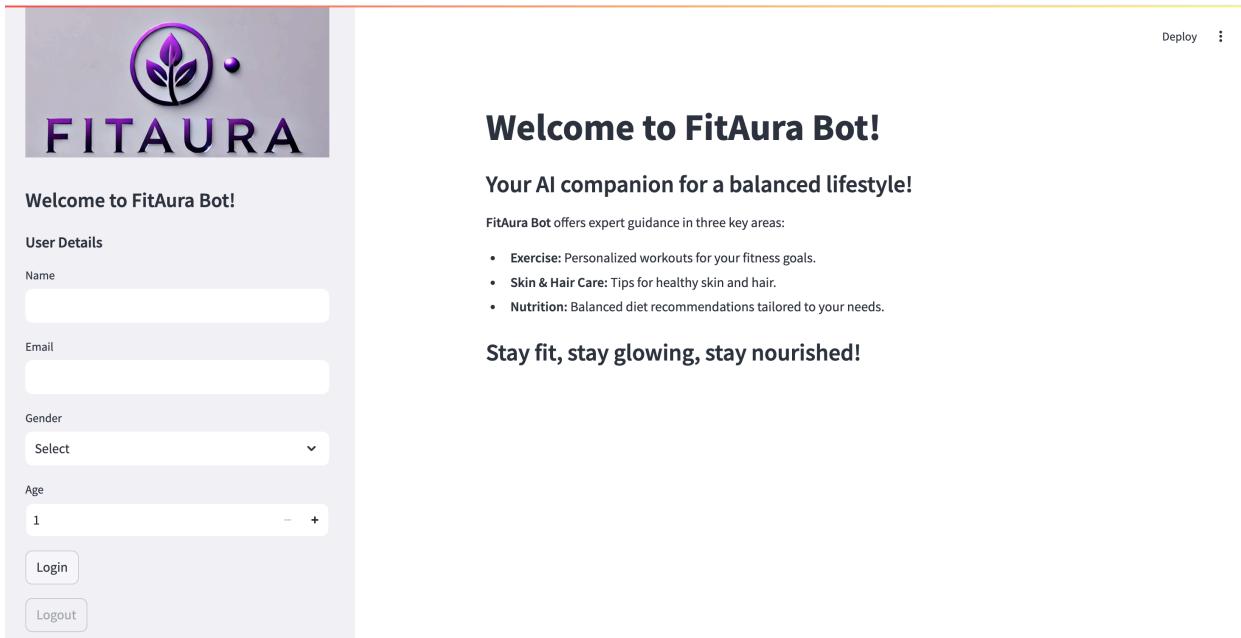


FitAura Bot Implementation Documentation

1. Overview

FitAura Bot is an AI-powered chatbot that provides users with personalized guidance on fitness, skincare, and nutrition. The bot is implemented using Streamlit for the front-end and FastAPI for the back-end, integrating with Google Gemini AI for intent recognition and response generation.



2. Functional Steps

Step 1: Welcome Message

- A "Welcome" message is displayed when the user accesses the chatbot.
- If the user is not logged in, the bot provides an introduction to its services.

Welcome to FitAura Bot!

Your AI companion for a balanced lifestyle!

FitAura Bot offers expert guidance in three key areas:

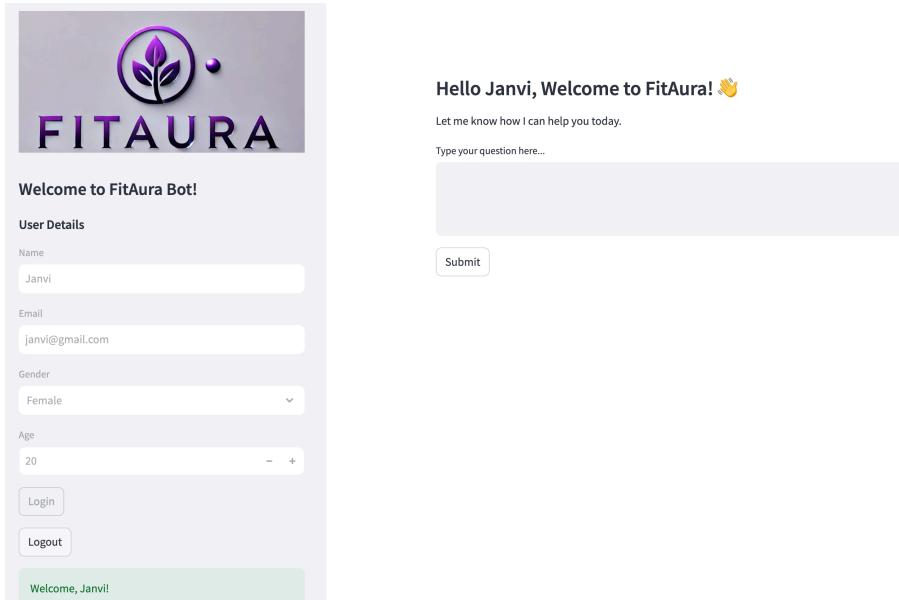
- **Exercise:** Personalized workouts for your fitness goals.
- **Skin & Hair Care:** Tips for healthy skin and hair.
- **Nutrition:** Balanced diet recommendations tailored to your needs.

Stay fit, stay glowing, stay nourished!

FitAura Bot Implementation Documentation

Step 2: User Details Collection

- The QueryRequest model enforces the inclusion of user details such as name, email, age, and gender.
- These details are passed as part of the request payload when interacting with the API endpoint /send_message.
- The values are extracted from the request object and used later in generating personalized responses.
 - The sidebar includes input fields for Name, Email, Gender, and Age.
 - A "Login" button enables users to authenticate and start chatting.
 - A "Logout" button resets session details and chat history.



FitAura Bot Implementation Documentation

Hello Janvi, Welcome to FitAura! 🙌

Let me know how I can help you today.

Type your question here...

hi

Submit



hi



Hello! How can I help you?

Step 3: Intent Recognition

The bot identifies at least three key intents using Google Gemini AI:

1. **Exercise Guidance** (e.g., "Suggest a workout routine.")
 2. **Skincare Advice** (e.g., "How can I prevent acne?")
 3. **Nutritional Tips** (e.g., "What foods help with muscle gain?")
- The recognize_intent function is implemented to classify user queries into predefined intents based on keywords.
 - At least five intents are defined: greeting, goodbye, workout_plan, nutrition_advice, and skincare.
 - Each intent has a list of associated keywords stored in the intent_keywords dictionary. The function checks if any keyword from these lists appears in the user input and returns the corresponding intent.
 - Example: If the query contains "exercise" or "workout," the intent is classified as workout_plan.

FitAura Bot Implementation Documentation



Nutrition - how to be healthy



Dietary Recommendations for a 20-Year-Old Female:

A healthy diet for a 20-year-old female focuses on nutrient density, variety, and balance to support optimal growth, development, and long-term health. Here's a breakdown:

1. Macronutrients:

- **Protein:** Crucial for building and repairing tissues, supporting immune function, and maintaining healthy hair and nails. Aim for 0.8 grams of protein per kilogram of body weight (or roughly 0.36 grams per pound). Good sources include lean meats, poultry, fish, eggs, beans, lentils, tofu, nuts, and seeds.
- **Carbohydrates:** Prioritize complex carbohydrates over refined carbohydrates. These provide sustained energy and are rich in fiber, which aids digestion and promotes satiety. Choose whole grains (brown rice, quinoa, oats), fruits, vegetables, and legumes. Limit sugary drinks, processed foods, and white bread.
- **Fats:** Include healthy fats for brain function, hormone production, and nutrient absorption. Opt for monounsaturated and polyunsaturated fats found in avocados, olive oil, nuts, seeds, and fatty fish (salmon, tuna). Limit saturated and trans fats found in red meat, processed foods, and fried foods.

2. Micronutrients:

Step 4: Conditional Logic

Users can select from predefined options to refine their request.

Conditional logic is implemented in two ways:

1. If the recognized intent is one of greeting, goodbye, or default, a static response is returned directly without invoking the AI model.
2. For ambiguous queries classified under the "common" intent, a clarification prompt is returned, asking users to specify whether they are referring to skincare, exercise, or nutrition. This creates a branching flow based on user input.
 - If a query is too broad, the bot prompts for clarification (e.g., "Are you asking about skincare, exercise, or nutrition?").

FitAura Bot Implementation Documentation

Hello Janvi, Welcome to FitAura! 🙌

Let me know how I can help you today.

Type your question here...

how to be healthy

Submit

👤 how to be healthy

🤖 Could you clarify? Are you asking about skincare, exercise, or nutrition?

👤 how to be healthy

🤖 common

Could you clarify? Are you asking about skincare, exercise, or nutrition?

Excercise

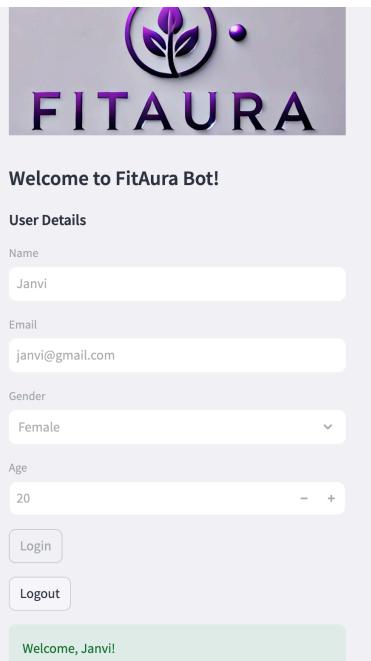
Skincare

Nutrition

Step 5: Response Generation.

- Responses are stored in the session state to maintain a chat history.
- Static responses: Predefined responses for intents like greeting, goodbye, and default are selected randomly from the intent_responses dictionary.
- Dynamic responses: For intents like workout_plan, nutrition_advice, or skincare, personalized prompts are dynamically generated using user details (e.g., age, gender) and sent to the Google Gemini AI model for a tailored response.

FitAura Bot Implementation Documentation



Deploy ⚙

Hello Janvi, Welcome to FitAura! 🌟

Let me know how I can help you today.

Type your question here...

how to get rid of acne marks

Submit

⌚ how to get rid of acne marks

⌚ Acne marks can be frustrating, but there are several ways to address them. Since you're 20, your skin has good regenerative potential, so with consistent effort, you should see improvement. Let's break down the types of marks and how to treat them:

1. Understanding the Type of Marks:

- Post-Inflammatory Erythema (PIE): These are flat, red or pink marks left behind after a pimple heals. They are caused by dilated blood vessels.
- Post-Inflammatory Hyperpigmentation (PIH): These are flat, brown or dark marks. They are caused by excess melanin production triggered by inflammation. PIH is more common in darker skin tones.
- Acne Scars (Atrophic or Hypertrophic): These are textured changes to the skin, like indentations (atrophic) or raised bumps (hypertrophic).

Hello Janvi, Welcome to FitAura! 🌟

Let me know how I can help you today.

Type your question here...

explain why hydration is important if you have an oily skin?

Submit

⌚ explain why hydration is important if you have an oily skin?

⌚ Many people with oily skin believe hydration is the enemy, but that's a misconception. Hydration is crucial even for oily skin, and here's why:

- Oil and Water Are Different: Oily skin produces excess sebum (oil), while hydration refers to water content in the skin. These are separate issues. Dehydrated skin lacks water, while oily skin has an overproduction of oil. You can have both oily *and* dehydrated skin simultaneously.
- Dehydration Triggers More Oil: When your skin is dehydrated, it senses the lack of moisture and can actually overcompensate by producing even *more oil*. This is your skin's attempt to create a barrier and lock in whatever moisture it can. So, ironically, trying to dry out your oily skin can make it oilier.
- Healthy Skin Barrier Function: A well-hydrated skin barrier is essential for overall skin health, regardless of skin type. It protects against environmental damage, reduces irritation, and helps your skin look its best. Dehydration compromises this

FitAura Bot Implementation Documentation

The screenshot shows the FitAura Bot interface. On the left, there's a sidebar with a logo and the text "Welcome to FitAura Bot!". It contains fields for "User Details": Name (Janvi), Email (janvi@gmail.com), Gender (Female), and Age (20). Below these are "Login" and "Logout" buttons, and a "Welcome, Janvi!" message.

The main area has a "Deploy" button at the top right. It displays a greeting: "Hello Janvi, Welcome to FitAura! 🙌". Below it is a text input placeholder: "Let me know how I can help you today." A message box contains the query: "explain why hydration is important if you have an oily skin?". A "Submit" button is next to it. Another message box shows a response: "Skincare routine is essential! Do you want to build a skincare routine? Yes!". This is followed by a message from the bot: "Okay, let's build a skincare routine for you! Since you're 20, prevention and maintenance are key. This routine focuses on maintaining healthy skin, addressing any current concerns, and setting you up for beautiful skin in the future." A section titled "Morning Routine:" lists three steps:

1. Cleanse: Use a gentle cleanser. Avoid harsh soaps. Look for cleansers labeled "for sensitive skin" or with ingredients like ceramides or hyaluronic acid. If you have oily skin, a foaming cleanser might be a good option. If you have dry skin, a creamy cleanser is preferred.
2. Vitamin C Serum (Optional but Recommended): Vitamin C is a potent antioxidant that protects against sun damage, brightens skin, and can help with acne scarring. Look for a serum with L-Ascorbic Acid (the most effective form of Vitamin C). Start with a low concentration (10-15%) and gradually increase as tolerated.
3. Moisturizer: Even oily skin needs moisturizer! Choose a lightweight, oil-free

Step 6. Handle Errors with a Helpful “I Didn’t Catch That, Please Rephrase”

- If no intent matches the user query, the function defaults to returning responses under the "default" intent.
- Example: Responses like "I'm not sure I understand. Can you rephrase?" ensure that users are guided to clarify their input.

Step 7. Fallback if the User’s Request Does Not Match Any Known Intent

- The fallback mechanism is implemented using the "default" intent in the recognize_intent function.
- If no keywords match any predefined intents, a generic response is returned, indicating that the bot could not understand the query.

FitAura Bot Implementation Documentation

Type your question here...

olympics 2027 start date

Submit

🤖 olympics 2027 start date

🤖 I'm not sure I understand. Can you rephrase?

Hello Janvi, Welcome to FitAura! 🙌

Let me know how I can help you today.

Type your question here...

when will next olympics match happen?

Submit

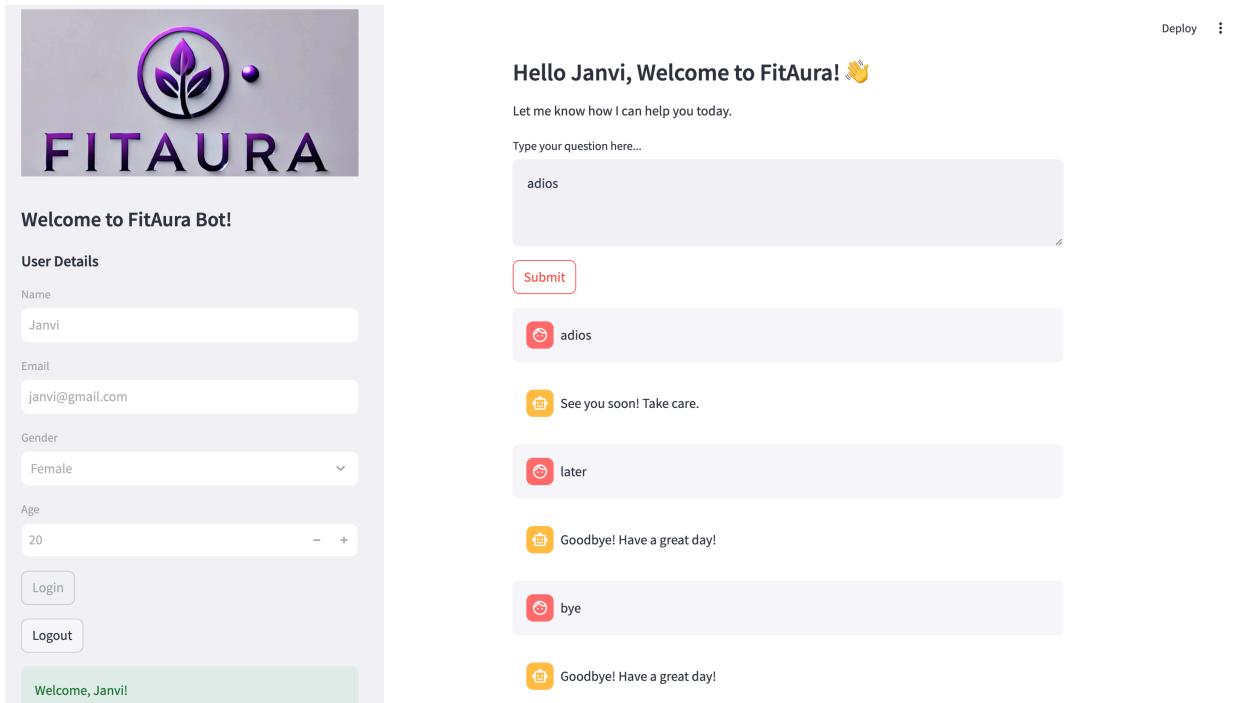
🤖 when will next olympics match happen?

🤖 I am trained to only answer questions on fitness, nutrition, and skincare.

Step 8: Conversation Closure

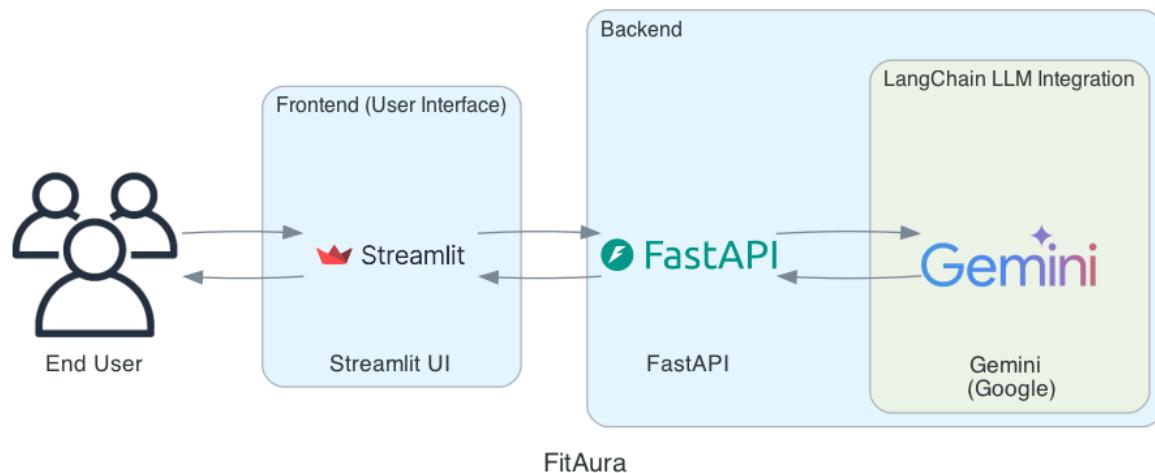
- For queries classified under the goodbye intent, polite closing messages such as "Goodbye! Have a great day!" or "See you soon! Take care." are returned.

FitAura Bot Implementation Documentation



3. Flow Diagram

A flowchart illustrating the chatbot's conversation states will be provided in the PDF document.



FitAura Bot Implementation Documentation

5. Explanation of Logic

- **User input is collected** through Streamlit UI components.
- **FastAPI processes the request** by sending it to the Gemini AI model.
- **Intent is determined**, and the appropriate response is generated.
- **Responses are displayed in the chat interface**, allowing for further interaction.
- **Error handling ensures** a seamless user experience even for ambiguous inputs.

6. Conclusion

FitAura Bot successfully implements a conversational AI system with structured user interactions, intent recognition, and dynamic responses. The use of conditional logic and fallback mechanisms enhances usability and robustness.