

A close-up photograph of a hand holding a small green seedling in soil. The hand is cupped, and the soil is dark and rich. The seedling has several green leaves and a thin stem. The background is a soft, out-of-focus light blue.

# ***AI-AGROBOT UNIVERSAL AI- BASED AGRICULTURAL ASSISTANT***

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# Project Statement

*Agriculture plays a crucial role in our economy, yet many farmers lack access to expert guidance at the right time.*

*The AI-AgroBot project aims to solve this issue by providing an interactive chatbot system that gives real-time crop advice, fertilizer suggestions, and pest solutions — in multiple languages.*

*It also includes image analysis for identifying crop health conditions using AI.*

# Outcomes

- *A multilingual AI chatbot that answers farming-related queries.*
- *Smart image analysis feature to detect crop health status.*
- *Secure user authentication system for farmers and admin.*
- *Admin dashboard to manage users, chatbot knowledge base, and chat history.*
- *Centralized database to store all interactions and user profiles.*
- *Promotes digital and smart agriculture solutions.*





# Modules to be Implemented

## **Voice Command Feature:**

Let users talk to the bot instead of typing.

## **Mobile App Integration:**

Make the system available offline for rural users.

## **Real-Time Weather Updates:**

Give crop suggestions based on weather.

## **More Languages:**

Expand chatbot to more Indian regional languages.

## **Machine Learning Crop Prediction:**

Predict future yield and disease risks.

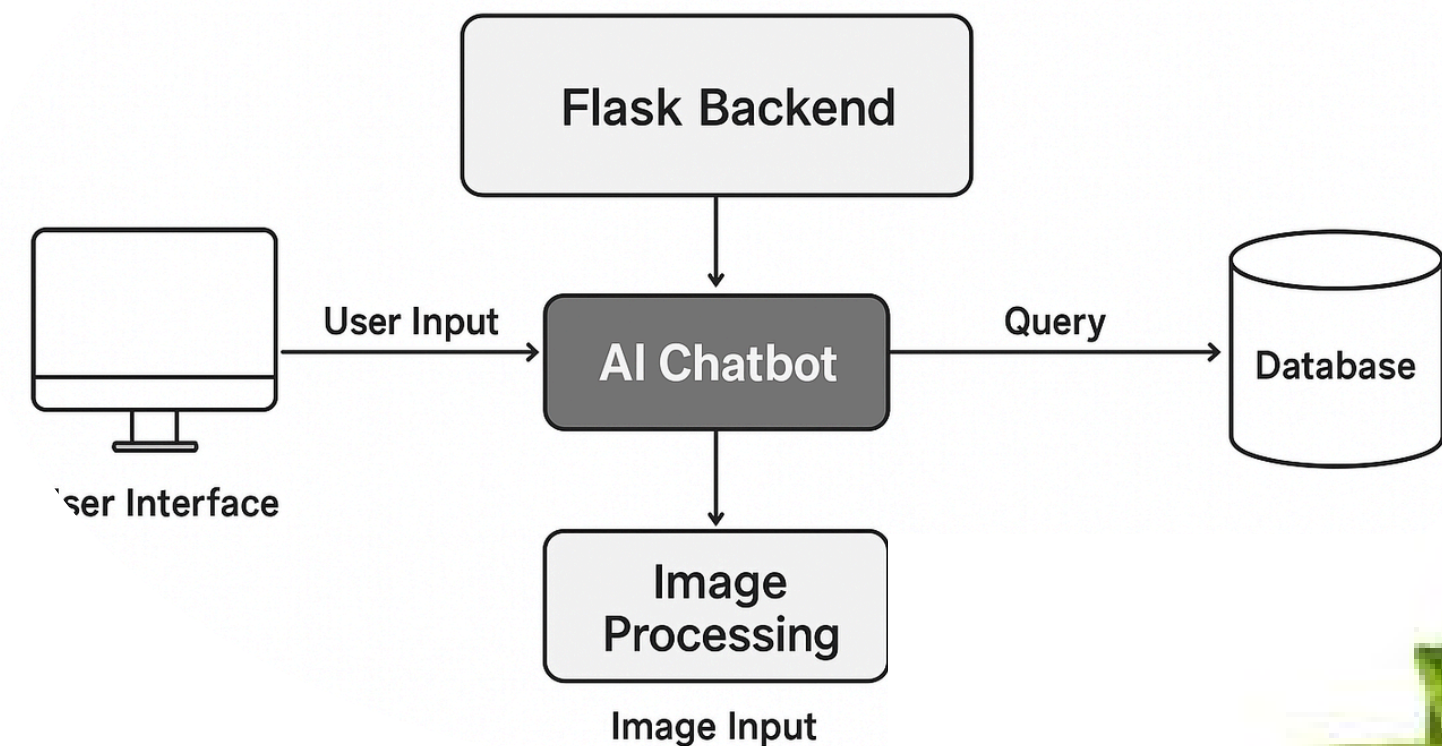


# Architecture Design

## ***Explanation:***

***The architecture follows a client-server model, where Flask acts as the backend framework. The chatbot logic processes user input, retrieves responses from the knowledge base or AI API, and sends replies back to the frontend.***

## ARCHITECTURE DESIGN



# Database Scheme

*Database Used: SQLite*

*Tables:Users Table*

*id, email, password, name, role, crop, region, language*

*ChatHistory Table*

*id, user\_id, user\_message, bot\_response, created\_at*

*Purpose:*

*Stores user data, login info, and chat records for  
analysis and admin control.*





# Sample Code

```
@app.route("/get", methods=["POST"])
def chatbot_response():
    if "user_id" not in session:
        return jsonify({"response": "Please log in to chat with me!"})
    user_message = request.json["message"]
    bot_reply = get_response(user_message)
    return jsonify({"response": bot_reply})
```





# Output

*The chatbot successfully responds to farming-related questions, gives fertilizer and pest suggestions, and analyzes plant health using uploaded images.*



**AI-AgroBot**

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## Admin dashboard

### Knowledge Base

```
[
  {
    "keywords": [
      "hi",
      "hello",
      "hey",
      "good morning",
      "good evening",
      "வணக்கம்",
      "ஹாய்",
      "ஹேலோ",
      "ஹெய்",
      "காலை வணக்கம்",
      "மாலை வணக்கம்"
    ]
  }
]
```

Save KB

### Import KB (CSV)

Choose File No file chosen

Upload CSV

CSV columns: keywords,answer\_en,answer\_hi,answer\_ta

ID	Email	Name	Role	Action
5	sneha@123	Sneha	farmer	<a href="#">Delete</a>
4	sneha608y@gmail.com	Sneha Kumari	farmer	<a href="#">Delete</a>
3	vignesh22@gmail.com	vignesh	farmer	<a href="#">Delete</a>
2	vmanju2022phd@gmail.com	Mrs.VManjuladevi	farmer	<a href="#">Delete</a>
1	admin@agrobot.com	Administrator	admin	



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### Your profile

[Login](#) to save chat & see profile.

Ask about crops, pests or soil (e.g. 'best soil for cotton')

[Image](#)

[Voice](#)

[Send](#)

### Create account

Name

Email

Password

Primary crop

Region

Preferred language

[Register](#)



# CONCLUSION

*As I mentioned earlier, AI-AgroBot is a complete digital assistant for farmers.*

*It combines AI, image processing, and web technologies to simplify agricultural problem-solving.*

*This project aims to empower farmers with instant, data-driven advice and make agriculture more efficient and sustainable in the future.*



# Thank you very much!

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