

# Abstract

Navigating the vast campus of Stephen F. Austin State University (SFA) and finding accurate information has always been a challenge for students. The existing chatbot on the SFA website, while helpful, requires users to select an office before typing their concerns, which can be inefficient. Recognizing the gap, the project JackBot seeks to enhance the user experience by leveraging Google's Generative AI technology.

- **Purpose:** Improve the functionality of the existing chatbot by using Google's Gemini API.
- Goal: Provide a more intuitive and accessible way for students to get their questions answered directly, without pre-selecting categories.

×	Ask Jack
	Hi, I'm Jack, a chatbot here to help with your questions in English, Chinese, and Spanish.
	Before we begin, which office would you like to reach?
	AARC ADMISSIONS OFFICE BOOKSTORE
	BUSINESS OFFICE
	CENTER FOR CAREER AND PROFESSIONAL DEVELOPMENT
	FINANCIAL AID OFFICE FRATERNITY & SORORITY LIFE OFFICE
	HELP DESK OFFICE OF STUDENT LIFE
	ORIENTATION & TRANSITION PROGRAMS REGISTRAR'S OFFICE
	RESIDENCE LIFE SFA RALPH W. STEEN LIBRARY
	STUDENT GOVERNMENT ASSOCIATION
	STUDENT RECREATION CENTER STUDENT SUCCESS CENTER
	COUNSELING SERVICES
Ask a	question
	Figure 1. Current Chatbot used by SFASU

### Benefit

JackBot provides several advantages to enhance the university experience:

- **Immediate Assistance:** JackBot is available 24/7, providing immediate help and reducing the need for in-person visits or lengthy searches through the university's website. This makes it easier for students to get the information they need, whenever they need it.
- **Timely Responses:** JackBot delivers timely and accurate responses to student inquiries, streamlining the information retrieval process.
- **User Satisfaction:** The chatbot enhances overall user satisfaction and engagement through its responsive and friendly interactions. Students feel more connected and supported by the university.
- **Insightful Analysis:** By analyzing interactions, JackBot helps the university gain valuable insights into common student concerns and areas needing improvement.

## Contact

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# JackBot: Developing a Chatbot Using Google's Generative Al Technology

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# Methods & Tools



The JackBot model was trained by utilizing Google's Gemini API. The training process involved several key steps to ensure the chatbot can handle a wide range of queries effectively.

- Collected and organized addresses and phone numbers for all SFASU campus locations.
- Utilized the Gemini API to train the model.
- Used Visual Studio Code to write simple code in Python for calling the API.
- Added behavioral guidelines for clear, concise, and friendly interactions.

### Navigation Pages prompt 🥒

System Instructions ptional tone and style instructions for the model

Pearman Alumni Cente Monday - Friday: 8 am - 5 pm

Stone Fort Museum nursday - Saturday: 10 am - 4 pm

Residence Life: londay - Friday: 8 am - 5 pm

xample Location Responses

- AARC (Academic Assistance & Resource Center): First Floor of the Ralph W. Steen Library. Phone Number: 936.468.4108 dvancement Annex: 3034 Raguet St, Nacogdoches, TX 75965. Phone Number: 936.468.5406 g Pond: Ag Pond, Nacogdoches, TX 75965
- Itural Mechanics: 623 E College St, Nacogdoches, TX 75965. Phone Number: 936.468.3705 ure Building: 1924 Wilson Dr, Nacogdoches, TX 75964. Phone Number: 936.468.3705 Iture Greenhouse: 720 Ag Art Dr, Nacogdoches, TX 75965. Phone Number: 936.468.3705
- Art Studio Annex: 2024 Wilson Dr, Nacogdoches, TX 75965. Phone Number: 936.468.4804 Art Ruilding: 2022 Wilson Dr. Nacogdoches, TX 75965, Phone Number: 936 168 1801

Figure 2. Model Training in Google AI Studio



**Future Endeavors** 

The further improvements of JackBot include:

- without them needing to search for it manually.
- issues autonomously, based on frequently asked questions. **Enhanced Problem-Solving:** Improving JackBot's ability to troubleshoot

# Acknowledgements

1. Google AI for Developers. "Gemini API Documentation." Retrieved from https://ai.google.dev/gemini-api/docs. 2. YouTube. "Gemini AI API with Python Latest Tutorial Video." Retrieved from https://www.youtube.com/watch?v=pTcunloZ-\_o. 3. YouTube. "Build AI Chatbot with Custom Knowledge Base." Retrieved from https://www.youtube.com/watch?v=\_HNMEGkjzsE.



**Knowledge Base Integration:** Adding data from SFASU's Knowledge Base for comprehensive information and up-to-date information for users

**Collaboration with IT Department:** Training JackBot to address common

and resolve issues, freeing up Help Desk staff for more complex problems.

# References

Hi there! I'm J with Stephen today?
The Cole STE Clark Blvd, Na
The phone nu Building is 930
Enter your message
with Stephen today?
The Baker Pat Monday throu
The Baker Pat
at 222 Vista D





