

Goa University
MSc Integrated Data Science (3+2)

AI College Chatbot

Project Report

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Abstract

This project presents an AI-powered college chatbot designed to answer student queries related to admissions, courses, faculty, campus life, and facilities. The chatbot enhances communication between students and the institution by providing instant replies. It is built using Python and the Gemini Pro model, making it efficient in understanding natural language and responding accurately. The chatbot can serve as a foundational model for university automation systems.

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1 Introduction

AI chatbots are transforming the way students interact with educational institutions. This project aims to develop a college chatbot capable of responding to student queries efficiently. It enhances accessibility, reduces response time, and can be integrated with university portals.

2 Objectives

- To create an AI chatbot for college-related queries.
- To provide automated and instant responses to students.
- To demonstrate the use of Gemini Pro model in chatbot development.

3 Technologies Used

- Python
- Gemini Pro API
- VS Code
- Command Line Interface

4 Methodology

1. Data collection and defining query categories.
2. Programming chatbot logic in Python.
3. Integrating Gemini Pro API.
4. Testing chatbot with different student questions.

5 System Architecture



architecture.png

(Add architecture diagram or leave placeholder)

6 Code Used

Below is the Python code used to run the chatbot:

```
# Simple College Chatbot using Gemini Pro

import google.generativeai as genai

genai.configure(api_key="YOUR_API_KEY")

model = genai.GenerativeModel("gemini-pro")

print("Welcome to Goa University AI Chatbot!")
print("Type exit to quit")

while True:
    user_input = input("You: ")
```

```
if user_input.lower() == "exit":  
    print("Chatbot: Goodbye!")  
    break  
  
response = model.generate_content(user_input)  
print("Chatbot:", response.text)
```

7 Output Screenshots

Chatbot Start

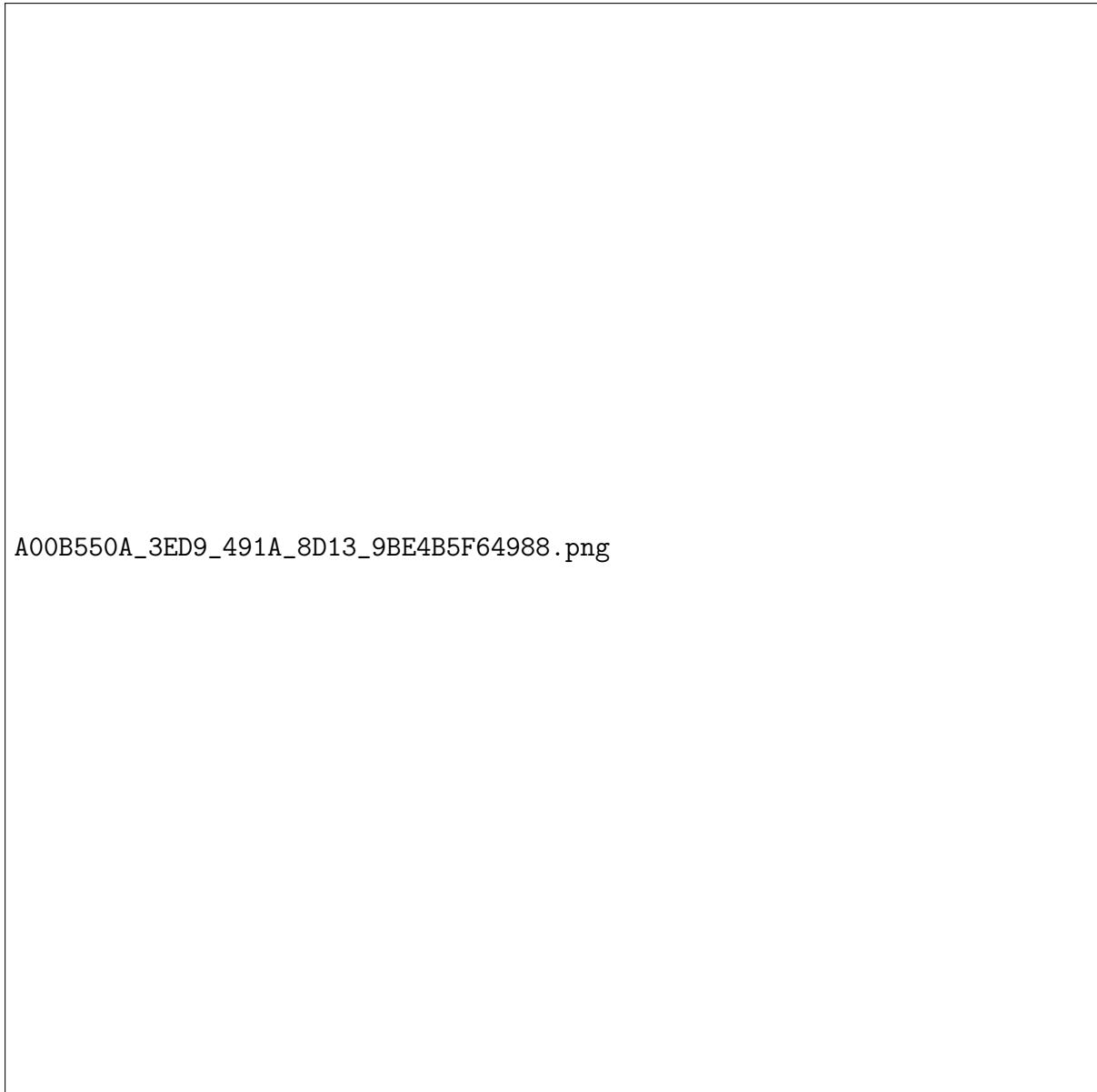


Figure 1: Chatbot Startup Interface

Course Query Output

```
AI College Chatbot Started! Type 'exit' to stop 🌟
You: list the courses offer by goa university
Chatbot: Of course! Here is a comprehensive list of the courses offered by Goa University.

It's important to note a key distinction:
* **On-Campus Programmes:** Goa University's main campus at Taleigao Plateau primarily offers Postgraduate (Master's), M.Phil, and Ph.D. programmes.
* **Affiliated Colleges:** The vast majority of Undergraduate (Bachelor's) degrees are offered by the numerous colleges across Goa that are affiliated with Goa University.

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### **Disclaimer**
Course offerings and admission criteria can change. For the most accurate and up-to-date information, **always check the official Goa University website:** [https://www.unigoa.ac.in/](https://www.unigoa.ac.in/)

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### **1. Postgraduate (Master's) Programmes (Mainly On-Campus)**

These are typically two-year full-time courses offered at the university campus.

#### **Faculty of Arts, Humanities & Social Sciences**
* **M.A. (Master of Arts) in:**
    * English
    * Hindi
    * Konkani
    * Marathi
    * French
    * Portuguese
    * History
    * Philosophy
    * Political Science
    * Sociology
    * Economics
    * International Studies
```

Figure 2: Chatbot Replying with Goa University Course Information

Detailed Response Output

- * French
 - * Portuguese
 - * History
 - * Philosophy
 - * Political Science
 - * Sociology
 - * Economics
 - * International Studies
 - * **M.Lib.I.Sc.** (Master of Library and Information S
 - * **M.S.W.** (Master of Social Work)
- ##### **Faculty of Natural Sciences**
- * **M.Sc. (Master of Science) in:**
 - * Physics
 - * Chemistry (Physical, Organic, Inorganic, Analyti
 - * Mathematics
 - * Computer Science
 - * Electronics
 - * Geology / Earth Science
 - * Geography
 - * Botany
 - * Zoology
 - * Microbiology
 - * Biotechnology
 - * Marine Science
 - * Marine Microbiology
 - * Environmental Science
- ##### **Faculty of Commerce & Management Studies**
- * **M.Com.** (Master of Commerce)
 - * **M.B.A.** (Master of Business Administration)
 - * **M.B.A.** (Financial Services)

You: 

Exit Command

```
* Botany
* Zoology
* Microbiology
* Biotechnology
* Marine Science
* Marine Microbiology
* Environmental Science

##### **Faculty of Commerce & Management Studies**
* **M.Com.** (Master of Commerce)
* **M.B.A.** (Master of Business Administration)
* **M.B.A.** (Financial Services)

You: exit
Chatbot: Goodbye 🖐
```

Figure 4: Chatbot Exit Command Demonstration

8 Conclusion

This AI chatbot successfully automates college query responses and demonstrates the use of Gemini Pro for Natural Language Understanding. It enhances the interaction between students and college administration.

9 Future Scope

- Adding voice assistant support
- Connecting with live university database
- Deploying on website/app interface
- Adding student login and personalized answers

References

- Gemini Pro Documentation

- Python Official Docs
- Google AI Developer Resources