

# **CONVERSATIONAL IMAGE RECOGNITION CHATBOT**

## **A PROJECT REPORT**

*Submitted by,*

**BENAKESHWAR GK -20211CAI0155  
VISHWAS CHANDRA C - 20211CAI0153  
GAUTHAM ASHWANI - 20211CAI0121  
DARSHAN KARTHIK KJ - 20211CAI0099  
PREETHI N - 20211CAI0131**

*Under the guidance of,*

**Dr. MURALI PARAMESWARAN**

*in partial fulfillment for the award of the degree of*

**BACHELOR OF TECHNOLOGY**

**IN**

**COMPUTER SCIENCE AND ENGINEERING,  
SPECIALIZATION IN ARTIFICIAL INTELLIGENCE AND MACHINE  
LEARNING.**



**PRESIDENCY UNIVERSITY**

**BENGALURU**

**May 2025**



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## **PRESIDENCY SCHOOL OF COMPUTER SCIENCE AND ENGINEERING**

### **CERTIFICATE**

This is to certify that the Project report “**CONVERSATIONAL IMAGE RECOGNITION CHATBOT**” being submitted by “**Benakeshwar GK , Vishwas Chandra C , Gautham Ashwani , Darshan Karthik KJ , Preethi N**” bearing roll number(s) “**20211CAI0155, 20211CAI0153, 20211CAI0121, 20211CAI0099, 20211CAI0131**” in partial fulfillment of the requirement for the award of the degree of Bachelor of Technology in Computer Science and Engineering , Specialization in Artificial Intelligence and Machine Learning , is a bonafide work carried out under my supervision.



**Dr. MURALI PARAMESWARAN**  
PROFESSOR & Guide  
PSCS/PSIS  
Presidency University



**Dr. ZAFAR ALI KHAN**  
PROFESSOR & HoD  
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**Dr. MYDHILI NAIR**  
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# PRESIDENCY UNIVERSITY

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### DECLARATION

We hereby declare that the work, which is being presented in the project report entitled “**CONVERSATIONAL IMAGE RECOGNITION CHATBOT**” partial fulfillment for the award of Degree of **Bachelor of Technology in Computer Science and Engineering**, Specialization in Artificial Intelligence and Machine Learning , is a record of our own investigations carried under the guidance of **Dr.Murali Parameswaran , Professor , Presidency School of Computer Science and Engineering & Information Science, Presidency University, Bengaluru.**

We have not submitted the matter presented in this report anywhere for the award of any other Degree.

Students Name	Roll Number
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*Benakeshwar GK*  
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## **ABSTRACT**

The identification of aircraft and access to technical or operational information has become crucial for modern aviation across defence logistics and aerospace research domains because of quick and accurate delivery requirements. The requirement for expert knowledge in manual identification methods leads to time-consuming operations while human mistakes become more likely during aircraft identification tasks under different visual conditions and aircraft types. A solution to this issue has been developed through an intelligent automated system that integrates top-tier image classification tools with question-answering technology based on modern language models. The system functions to detect aircraft identity in images and functionality which generates answers to user questions that originate from a customized dataset and AI generative programming.

The project features a Convolutional Neural Network (CNN) that identifies over 80 types of military and civilian aircraft in photographs as its main operational component. The system operates using a hybrid database structure that unites static aircraft records with pre-tagged Q&A pairs and current responses from Google's Gemma 2B Large Language Model (LLM). Such integrated technologies enable user interaction through natural methods to receive precise aircraft identification together with detailed explanations and operational data and technical information.

Core programming incorporates Python as programming language together with TensorFlow and supports Accelerate and Hugging Face Transformers AI libraries and PyTorch. The interface between user input and file upload functions and image transmission becomes possible through a Flask web frontend. The solution implements deep learning techniques through web deployment features that enable LLM-based reasoning abilities and supports expansion of recognition systems throughout automotive and surveillance and satellite image analysis domains.

## **ACKNOWLEDGEMENTS**

First of all, we indebted to the **GOD ALMIGHTY** for giving me an opportunity to excel in our efforts to complete this project on time.

We express our sincere thanks to our respected dean **Dr. Md. Sameeruddin Khan**, Pro-VC - Engineering and Dean, Presidency School of Computer Science and Engineering & Presidency School of Information Science, Presidency University for getting us permission to undergo the project.

We express our heartfelt gratitude to our beloved Associate Dean **Dr. Mydhili Nair**, Presidency School of Computer Science and Engineering, Presidency University, and **Dr. Zafar Ali Khan**, Head of the Department, Presidency School of Computer Science and Engineering, Presidency University, for rendering timely help in completing this project successfully.

We are greatly indebted to our guide **Dr. Murali Parameswaran**, **Professor** and Reviewer and **Dr. Zafar Ali Khan**, **Head of the Department**, Presidency School of Computer Science and Engineering, Presidency University for their inspirational guidance, and valuable suggestions and for providing us a chance to express our technical capabilities in every respect for the completion of the internship work.

We would like to convey our gratitude and heartfelt thanks to the CSE7301 Internship/University Project Coordinator **Mr. Md Ziaur Rahman** and **Dr. Sampath A K**, department Project Coordinators **Dr. Afroz Pasha** and Git hub coordinator **Mr. Muthuraj**.

We thank our family and friends for the strong support and inspiration they have provided us in bringing out this project.

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