



**PRESIDENCY UNIVERSITY**

Private University Estd. in Karnataka State by Act No. 41 of 2013  
Itgalpura, Rajankunte, Yelahanka| Bengaluru - 560064



# **PGRKAM SMART ASSISTANT**

## **A PROJECT REPORT**

*Submitted by*

ASHWIN R - 20221CAI0042

SACHIN S - 20221CAI0026

HARSHIT B- 20221CAI0017

*Under the guidance of,*

**Mr. JAI KUMAR B**

## **BACHELOR OF TECHNOLOGY**

**IN**

**COMPUTER SCIENCE AND ENGINEERING  
(ARTIFICIAL INTELLIGENCE AND MACHINE  
LEARNING)**

**PRESIDENCY UNIVERSITY**

**BENGALURU**

**DECEMBER 2025**



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## PRESIDENCY SCHOOL OF COMPUTER SCIENCE AND ENGINEERING


### BONAFIDE CERTIFICATE

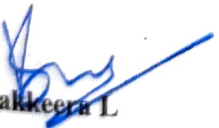
Certified that this report, "PGRKAM SMART ASSISTANT," is a bonafide work of "ASHWIN R (20221CAI0042), SACHIN S (20221CAI0026), and HARSHIT B (20221CAI0017)," who have successfully carried out the project work and submitted the report for partial fulfillment of the requirements for the award of the degree of BACHELOR OF TECHNOLOGY in COMPUTER SCIENCE ENGINEERING, ARTIFICIAL INTELLIGENCE AND MACHINE LEARNING during 2025-26.


  
**Dr. Jai Kumar B**  
Project Guide  
PSCS  
Presidency University

  
**Ms. Suma N G**  
Program Project  
Coordinator  
PSCS  
Presidency University


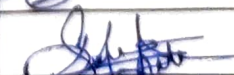
  
**Dr. Sampath A K**  
**Dr. Geetha A**  
School Project  
Coordinators  
PSCS  
Presidency University

  
**Dr. Zafar Ali Khan N**  
Head of the Department  
PSCS  
Presidency University

  
**Dr. Shakkeera L**  
Associate Dean  
PSCS  
Presidency University

  
**Dr. Duraipandian N**  
Dean  
PSCS & PSIS  
Presidency University

#### Name and Signature of the Examiners

S.No	Name	Date	Signature
1.	Jijina M T	4/12/25	
2.	Shana Aneevan	4/12/25	

# PRESIDENCY UNIVERSITY

## PRESIDENCY SCHOOL OF COMPUTER SCIENCE AND ENGINEERING

### DECLARATION

We, the students of the final year of B.Tech in COMPUTER SCIENCE ENGINEERING (ARTIFICIAL INTELLIGENCE AND MACHINE LEARNING) at Presidency University, Bengaluru, named ASHWIN R, SACHIN S, and HARSHIT B, hereby declare that the project work titled **"PGRKAM Smart Assistant"** has been independently carried out by us and submitted in partial fulfillment for the award of the degree of B.Tech in COMPUTER SCIENCE ENGINEERING (ARTIFICIAL INTELLIGENCE AND MACHINE LEARNING) during the academic year of 2025-26. Further, the matter embodied in the project has not been submitted previously by anybody for the award of any degree or diploma to any other institution.

ASHWIN R

20221CAI0042



SACHIN S

20221CAI0026



HARSHIT B

20221CAI0017



PLACE: BENGALURU

DATE: 4/12/2025

## ACKNOWLEDGEMENT

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I would like to sincerely thank my internal guide, Mr. Jai Kumar B, Assistant Professor, Presidency School of Computer Science and Engineering, Presidency University, for his moral support, motivation, timely guidance, and encouragement provided to us during the period of our project work.

I am also thankful to **Dr. Zafar Ali Khan N, Professor and Head of the Department, Presidency School of Computer Science and Engineering**, Presidency University, for his mentorship and encouragement.

We express our cordial thanks to **Dr. Duraipandian N**, Dean of PSCS & PSIS; **Dr. Shakkeera L**, Associate Dean of the Presidency School of Computer Science and Engineering; and the Management of Presidency University for providing the required facilities and intellectually stimulating environment that aided in the completion of my project work.

We are grateful to **Dr. Sampath A. K. and Dr. Geetha A.**, PSCS Project Coordinator; and **Ms. Suma N G, Program Project Coordinator**, Presidency School of Computer Science and Engineering, for facilitating problem statements, coordinating reviews, monitoring progress, and providing their valuable support and guidance.

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ASHWIN R

SACHIN S

HARSHIT B



# Abstract

The Punjab Government launched the Punjab Ghar Ghar Rozgar and Karobar Mission (PGRKAM) to provide people with access to a wide variety of job opportunities (both government jobs and private sector) through a single digital platform. The application allows users from rural and semi-urban communities to register for job opportunities via the Internet, but there are many barriers for these users in accessing the site, including limitations in their knowledge of English and/or Punjabi; a lack of digital literacy; challenges in navigating the website; and waiting for updates regarding the status of their applications.

Conversational AI has the potential to help reduce these barriers and improve access to job opportunities and government or private schemes for users from rural and semi-urban communities. The PGRKAM project includes a Smart Assistant that can interact with users in multiple languages (Punjabi and English) to provide real-time information about jobs, schemes, and training programs through conversations. The Smart Assistant has been built using the FastAPI web framework with an RAG (Retrieval Augmented Generation) architecture, which provides for the processing of user requests.

The Smart Assistant uses Natural Language Understanding (NLU) and a hybrid retrieval approach to process requests. In addition to being able to accept voice-based input (using Speech-to-Text) and providing real-time translation capabilities, the Smart Assistant provides a high level of usability for users in rural and semi-urban communities.