A REPORT
ON

Sentiment Analysis of Incoming Calls on Helpdesk

A PROJECT REPORT

Submitted by,

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Under the guidance of,

Ms. B H IMPA

in partial fulfillment for the award of the degree of

BACHELOR OF TECHNOLOGY

IN

COMPUTER ENGINEERING

At

GAIN MORE KNOWLEDGE
REACH GREATER HEIGHTS

PRESIDENCY UNIVERSITY
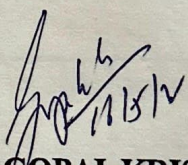
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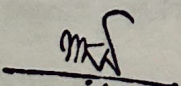### MAY 2025

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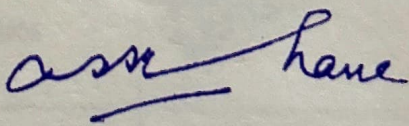
SCHOOL OF COMPUTER SCIENCE ENGINEERING

CERTIFICATE

This is to certify that the Project report **"Sentiment Analysis of Incoming Calls on Helpdesk"** being submitted by "DEEPIKA C. S, PRAKASH SINGH, DISHIK L SETTY, PAAVANA GOWDA" bearing roll number(s) "20211COM0075, 20211CEI0055, 20211COM0006, 20211COM0029" in partial fulfilment of requirement for the award of degree of Bachelor of Technology in Computer Engineering is a bonafide work carried out under my supervision.

Ms. B H IMPA
Assistant Professor
PSCS
Presidency University

Dr. GOPAL KRISHNA SHYAM
Professor & HOD
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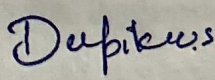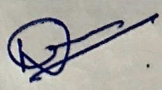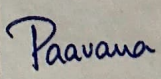**Dr. MYDHILI K NAIR**
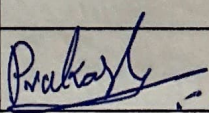Associate Dean
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Dr. MD. SAMEERUDDIN KHAN
Pro Vice Chancellor Engineering
Dean -PSCS/PSIS
Presidency University

PRESIDENCY UNIVERSITY

SCHOOL OF COMPUTER SCIENCE ENGINEERING

DECLARATION

We hereby declare that the work, which is being presented in the project report entitled **"Sentiment Analysis of Incoming Calls on Helpdesk"** in partial fulfilment for the award of Degree of **Bachelor of Technology in Computer Engineering**, is a record of our own investigations carried under the guidance of **Ms. B H Impa, Assistant Professor, School of Computer Science and Engineering , Presidency University, Bengaluru.**

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

ROLL NUMBERS	NAMES	SIGNATURE
DEEPIKA C. S	20211COM0075	*Deepikas*
DISHIK L SETTY	20211COM0006	*(signature)*
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ABSTRACT

The proposed project focuses on the development of an advanced system that integrates speech recognition, sentiment analysis, and sarcasm detection, providing a comprehensive solution for real-time textual content analysis. The primary aim of this system is to transcribe spoken language into text and analyze the emotional tone of the text while identifying sarcastic statements. The system is built using a combination of cutting-edge technologies, including automatic speech recognition (ASR) models such as Whisper, natural language processing (NLP) techniques for sentiment analysis, and advanced algorithms for sarcasm detection. The backend of the system leverages FastAPI, ensuring efficient handling of API requests, while MongoDB is used for storing user data and transcriptions. The system's core functionality enables users to input audio through an intuitive interface, which is then converted into text and analyzed for sentiment and sarcasm. The results are displayed in real-time, offering valuable insights into the emotional tone of the content. This project not only demonstrates the potential of integrating multiple AI-based technologies but also aims to provide a tool that can be utilized in a variety of applications such as customer feedback analysis, social media monitoring, and content moderation. Through the implementation of robust machine learning models and scalable backend infrastructure, this system offers a high-performance solution for understanding and interpreting human emotions in both speech and text.

ACKNOWLEDGEMENT

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 record our heartfelt gratitude to our beloved Associate Deans **Dr. Mydhili K Nair**, Presidency School of Computer Science Engineering &, Presidency University, and Dr. Gopal Krishna Shyam, 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 **Ms. B H Impa**, Assistant Professor, Presidency School of Computer Science and Engineering, Presidency University for her inspirational guidance, and valuable suggestions and for providing us a chance to express our technical capabilities in every respect for the completion of the project work.

We would like to convey our gratitude and heartfelt thanks to the CSE7301 University Project Coordinators **Mr. Md Ziaur Rahman and Dr. Sampath A K**, department Project Coordinators **Dr. Sudha P** 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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