ACKNOWLEDGEMENT

First and foremost, I give thanks to almighty God for all his blessings that he bestowed upon me without which I won't be where I am today.

We express my sincere thanks to our principal, **Dr. K. Venkateswara Rao** for providing me the necessary infrastructure and his guidance in the efficient completion of the project work.

We owe a great deal of gratitude to our beloved Head of Department, **Dr. A. Yesu Babu** for his continuous support in the journey of my course, for his patience, motivation, enthusiasm and immense knowledge.

We owe a great deal of gratitude to my project guide **Mr. V. GOPINATH** for his continuous support in the journey of my course, for his patience, motivation, enthusiasm and immense knowledge. His guidance helped me in all the time of work and completing this project successfully.

PROJECT MEMBERS

Mounika Dimmiti(20B81A1279)

R. Naveen Chowdary(20B81A12A1)

V.Pavan Kumar(20B81A12B7)

P. Dhatri (20B81A1296)

ABSTRACT

This project focuses on creating a robust hand gesture recognition system using deep learning. Traditional methods face challenges with diverse hand poses, prompting the use of a Convolutional Neural Network (CNN). A comprehensive dataset is collected for training the CNN, enabling it to automatically learn features crucial for accurate gesture recognition. The system is optimized for real-time responsiveness, and techniques like data augmentation and fine-tuning are applied to enhance its adaptability and overall performance. The CNN is trained to process live video input, accurately identifying and classifying hand gestures. The project emphasizes simplicity and effectiveness, using deep learning to address challenges and improve human-computer interaction. Rigorous evaluations measure accuracy, precision, recall, and real-time responsiveness, showcasing the system's reliability in recognizing a variety of hand gestures. This research contributes to creating an intuitive and adaptable interface for seamless interactions between users and machines.

DECLARATION

We hereby declare that the dissertation entitled **"ENHANCING HAND GESTURE RECOGNITION THROUGH DEEP LEARNING ARCHITECTURES"**, is submitted to the B-tech degree is my original work and the dissertation has not formed the basis of the award of any degree, fellowship, or any other similar titles.

Mounika Dimmiti(20B81A1279)
R. Naveen Chowdary(20B81A12A1)
V.Pavan Kumar(20B81A12B7)
P. Dhatri (20B81A1296)

TABLE OF CONTENTS

LIST OF FIGURES