

## ACKNOWLEDGEMENT

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## **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.

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