SIGN LANGUAGE RECOGNITION USING MACHINE LEARNING AND ACCURACY ANALYSIS

A Project Report in Partial Fulfillment of the requirements for

the award of the degree of

BACHELOR OF TECHNOLOGY
IN
COMPUTER SCIENCE ENGINEERING

Submitted by

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Under the guidance of

Dr. V USHA BALA
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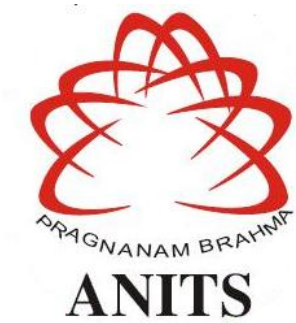

DEPARTMENT OF COMPUTER SCIENCE AND ENGINEERING

ANIL NEERUKONDA INSTITUTE OF TECHNOLOGY AND SCIENCES
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Sangivalasa, bheemili mandal, visakhapatnam dist.(A.P)

2018-2022

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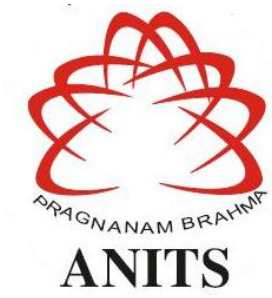

BONAFIDE CERTIFICATE

This is to certify that the project report entitled "**SIGN LANGUAGE RECOGNITION USING MACHINE LEARNING AND ACCURACY ANALYSIS**" submitted by **G Kiran Kumar(318126510139),EVM Prateek(318126510138) and Shaik R Mahammad Azharuddin(318126510174)** in partial fulfillment of the requirements for the award of the degree of **Bachelor of Technology** in **Computer Science and Engineering** of Anil Neerukonda Institute of Technology and Sciences (A), Visakhapatnam is a record of bonafide work carried out under my guidance and supervision.

Head of the Department
Dr. R.SIVARANJANI
Professor
Department of CSE
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Project Guide
Dr. V Usha Bala
Assistant Professor
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DECLARATION

We, **G Kiran Kumar , Shaik R Mahammad Azharuddin ,EVM Prateek** of final semester B.Tech., in the department of Computer Science and Engineering from ANITS, Visakhapatnam, hereby declare that the project work entitled **SIGN LANGUAGE RECOGNITION USING MACHINE LEARNING AND ACCURACY ANALYSIS** is carried out by us and submitted in partial fulfillment of the requirements for the award of **Bachelor of Technology in Computer Science Engineering** , under Anil Neerukonda Institute of Technology & Sciences(A) during the academic year 2018-2022 and has not been submitted to any other university for the award of any kind of degree.

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ABSTRACT

Communication is the key for any human being and for the small percentage of people who have a hearing problem (deaf and dumb community). The only way for them to communicate is to use sign language. Sign language is a combination of hand movements, Facial expressions and body gestures. There is no problem for the mute people to communicate among themselves, but normal people have no interest in learning sign-language which is a barrier of communication between people. The main objective of this model is to use machine learning and deep learning techniques to solve this problem which is to make a fully functional, feasible, reliable and easy to use. The biggest disadvantage of the existing system is that it can only recognize alphabets and numbers related to gestures but not complete words which are used in real life. Our proposed work takes the image/video input and uses the trained machine learning model to predict the signs and gestures in sign-language. We tried to recognize not only gestures but also signs which are relatively hard and unique to recognize. We generate English words corresponding to the signs shown by the user and the generated words can be further used to form proper English sentences. The above mentioned procedure can be used to train the proposed work in order to identify signs of any sign language.

Key words: sign language, facial expressions, signs, gestures, hand movements, body gestures, hand gestures, image and video gesture recognition.

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