

**VISVESVARAYA TECHNOLOGICAL UNIVERSITY,
BELAGAVI**



**A PROJECT REPORT ON
“FACIAL EXPRESSION RECOGNITION BASED ON
CONVOLUTIONAL NEURAL NETWORK”**

Submitted in partial fulfillment for the award of Degree of

BACHELOR OF ENGINEERING

IN

COMPUTER SCIENCE & ENGINEERING

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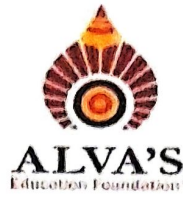
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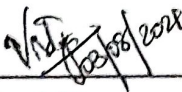



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CERTIFICATE

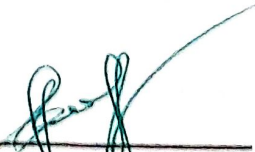
This is to certify that the project entitled "**FACIAL EXPRESSION RECOGNITION BASED ON CONVOLUTIONAL NEURAL NETWORK**" has been successfully completed by

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the bonafide students of **DEPARTMENT OF COMPUTER SCIENCE & ENGINEERING, ALVA'S INSTITUTE OF ENGINEERING AND TECHNOLOGY** of the **VISVESVARAYA TECHNOLOGICAL UNIVERSITY, BELAGAVI** during the year 2020–2021. It is certified that all corrections/suggestions indicated for Internal Assessment have been incorporated in the report deposited in the departmental library. The project report has been approved as it satisfies the academic requirements in respect of Project work prescribed for the Bachelor of Engineering Degree.


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ABSTRACT

Human emotions are natural expressions that people tend to make naturally, instead of any conscious effort that is accompanied by the reflexing of facial muscles. Some of the common emotions are Happy, sad, surprised, anger and stable (normal) which a human face can make according to the different situations one may find itself in. We present the software which detects and recognizes faces as well as tells a lot more about that person which could be used to get feedback from customers or to know if a person needs motivation. The objective of the project is to be an affordable and efficient product. Artificial Intelligence & Digital image processing technology used to make the system in python. Detection of eye blinking is important in certain scenarios where to avoid any accident or mishappening like in vehicles or in security vigilance. As the system also recognizes the identity card, this is a simple feature wherein the camera installed is trained in such way that it firstly focuses on the card and recognizes its shape and color.