



## **FINAL YEAR PROJECT REPORT**

# **RECOGNITION OF EMOTION INTENSITIES USING MACHINE LEARNING ALGORITHMS: A COMPARITIVE STUDY**

**In fulfillment of the requirement  
For degree of  
BS (COMPUTER SCIENCES)**

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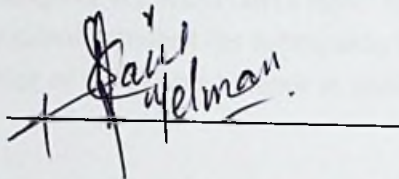
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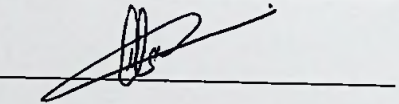
**DECLARATION**

We hereby declare that this project report is based on our original work except for citations and quotations which have been duly acknowledged. We also declare that it has not been previously and concurrently submitted for any other degree or award at Bahria University or other institutions.

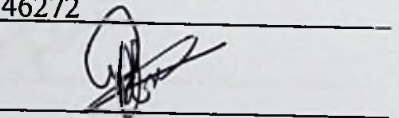
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## APPROVAL FOR SUBMISSION

We certify that this project report entitled "EMOTIONAL DETECTION USING MACHINE LEARNING ALGORITHM" was prepared by KHALIL, IBRAR & ANAS have met the required standard for submission in partial fulfilment of the requirements for the award of Bachelor of Computer Science at Bahria University.

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11 / Jan / 2021

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## EMOTIONAL DETECTION USING MACHINE LEARNING ALGORITHM.

### ABSTRACT

A lot of work has been done in the recent years for automatic recognition of facial features but the existing work do not measure the intensity of facial emotion. Increasing need for behavioral biometric systems and human-machine interactions demands more efficient facial emotion recognition where intensity of the emotions is also measured. Therefore, in this study the aim is to detect various facial emotions (happy, sad, fear, disgust, neutral, surprise and angry) using machine learning algorithms. In this project, HOG and Gabor filter are used for features extractions where as SVM and KNN algorithm are used for emotions classification. The accuracy achieved for SVM is 96.62%. and the accuracy for KNN is 94.62%. The results validate that the facial emotions can be detected with good accuracy using machine learning algorithms. Further this study can be improved by performing real-time behavioral facial emotion and intensity of emotion recognition.

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