VISVESVARAYA TECHNOLOGICAL UNIVERSITY

"Jnana Sangama" Belagavi – 590 010

PROJECT REPORT ON

"FACE DETECTION AND RECOGNITION FOR SMART ATTENDANCE SYSTEM USING RASPBERRY PI"

Submitted in partial fulfillment of the requirements for the award of degree

BACHELOR OF ENGINEERING
IN
ELECTRONICS & COMMUNICATION ENGINEERING

Submitted By

Name	USN
AKSHATA PATIL	4AL15EC004
ASHRITHA	4AL15EC012
DHEERAJ SHETTY	4AL15EC020
GANESH A	4AL16EC402

Under the Guidance of
Mr. Sachin K
Asst. Professor
Department of E&C Engineering

DEPARTMENT OF ELECTRONICS & COMMUNICATION ENGINEERING

ALVA'S INSTITUTE OF ENGINEERING & TECHNOLOGY

MOODBIDRI – 574 225.

2018-2019

ALVA'S INSTITUTE OF ENGINEERING & TECHNOLOGY

MOODBIDRI – 574 225
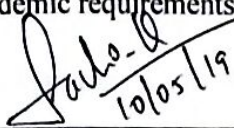
(Affiliated to VTU, BELAGAVI)

DEPARTMENT OF ELECTRONICS & COMMUNICATION ENGINEERING

CERTIFICATE

Certified that the project work entitled "FACE DETECTION AND RECOGNITION FOR SMART ATTENDANCE SYSTEM USING RASPBERRY PI" *is a bona fide work carried out by*
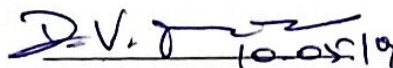
Akshata Patil	4AL15EC004
Ashritha	4AL15EC012
Dheeraj Shetty	4AL15EC020
Ganesh A	4AL16EC402

in partial fulfillment for the award of BACHELOR OF ENGINEERING in ELECTRONICS & COMMUNICATION ENGINEERING of the VISVESVARAYA TECHNOLOGICAL UNIVERSITY, BELAGAVI during the year 2018–2019. 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.

Signature of the Guide Signature of the H.O.D Signature of the Principal

Mr. Sachin K

Dr. D V Manjunatha
H.O.D
Dept. Of Electronics & Communication
Alva's Institute of Engg. & Technology
Mijar, MOODBIDRI - 574 225

Dr. Peter Fernandes
PRINCIPAL
Alva's Institute of Engg. & Technology,
Mijar, MOODBIDRI - 574 225, D.K.

EXTERNAL VIVA

Name of the Examiners   Signature with date

1. DR. D.V. MANJUNATHA   12/06/19

2. ASHOKA.A   12/6/19

ABSTRACT

Security is the major threat to an organization or institute that is why there is a need of several specially trained person to attain the desired security to overcome the declining security condition in the country. The person as human being makes mistake that might affect the security, hence there is a need for facial recognition system which is fast, accurate and highly secured real time system which reduces the human errors while taking attendance. Face recognition is one of the most important biometric pattern recognition which is used in broad spectra applications. The main purpose of this project is to develop face detection and recognition for smart attendance system using Raspberry Pi. This system will eliminate the proxy attendance, saves the time and reduces mistakes while taking the attendance.

Raspberry Pi installed with open computer visualization library and a camera module is connected for face detection and recognition, a time period is set for taking attendance and the database is automatically uploaded into the SQLite. Since the inception of pattern recognition and image processing researchers across the globe continue to propose newer facial recognition algorithms. A facial recognition system is a technology capable of identifying or verifying a person from a digital image or a video frame from a video source and face detection is a computer technology being used in a variety of applications that identifies human faces in digital images.

Each of the facial algorithms has its own pros and cons, hence in this project some best algorithms are used to build accurate face detection and recognition model. LBPH, fisherface and haar cascade algorithms are used to detect the faces even with the different light intensities. It maintains the student attendance and reduces the human errors, hence it is one of the best method to take the attendance among other methods. It can be used in the schools, colleges, hospitals, office, malls, roadpaths, airports and security system applications.