A
Project Report
on

Security System using Face Identification and Verification and Fingerprint Recognition

Submitted in partial fulfilment of the requirement for the award
Of
BACHELOR OF TECHNOLOGY
IN
COMPUTER SCIENCE ENGINEERING

Under the Guidance
OF

Vaibhav Kant Singh

(Asst. Prof., Dept. of Computer Science & Engineering)

Submitted by:

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DEPARTMENT OF COMPUTER SCIENCE & ENGINEERING, SCHOOL OF STUDIES, ENGINEERING & TECHNOLOGY, GGV
KONI, BILASPUR, CHATTISGARH

2022-2023

DEPARTMENT OF COMPUTER SCIENCE & ENGINEERING, SCHOOL OF STUDIES, ENGINEERING & TECHNOLOGY GGV
KONI, BILASPUR, CHATTISGARH, 2022-2023

CERTIFICATE

This is to certify that the Project entitled **"Security System using Face Identification and Verification and Fingerprint Recognition"** presented by **Yatindra Deo, Abhishek Kumar Singh** and **Yeramareddy Dhanush Sai Reddy** of **DEPARTMENT OF COMPUTER SCIENCE & ENGINEERING** in **School of Studies, Engineering & Technology, GGV** has been completed successfully. This is in partial fulfilment of the requirements of Bachelor Degree in Department of Computer Science & Engineering under Institute of Technology, Guru Ghasidas Vishwavidyalaya, Koni, Bilaspur, Chhattisgarh, 495009.

I wish him success in all future endeavours.

Signature of students

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DECLARATION

I hereby declare that the project "**Security System using Face Identification and Verification and Fingerprint Recognition"** which we have submitted in the partial fulfilment for the requirement for the award of the Degree of Bachelor of Technology in Computer Science & Engineering, Institute of Technology, Guru Ghasidas Vishwavidyalaya, Bilaspur, Chhattisgarh is an authentic work done during the session 2022-2023(June-Nov) Under the supervision of Mr. Vaibhav Kant Singh (Assistant Professor) Department of Computer Science & Engineering, Institute of Technology, Guru Ghasidas Vishwavidyalaya, Bilaspur, Chhattisgarh. I further declare that the work which have done in this project has not been submitted either in part or in full, for the award of any other degree or diploma in this institute

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Abbreviation

S. No.	Abbr.	Full Form
1.	OpenCV	Open-Source Computer Vision
2.	DNN	Deep Neural Network
3.	BLOB	Binary Large Object
4.	SIFT	Scale Invariant Feature Transform
5.	FLANN	Fast Library for Approximate Nearest Neighbours
6.	KNN	K-Nearest Neighbour
7.	RGB	Red Green Blue
8.	CNN	Convolutional Neural Network
9.	HOG	Histogram of Oriented Gradients
10.	DCNN	Deep Convolutional Neural Network
11.	WRN	Wide Residual Network
12.	FFT	Fast Fourier Transform
13.	PCA	Principal Component Analysis
14.	LDA	Linear Discriminant Analysis
15.	YOLO	You Only Look Once
16.	SaaS	Software as a service
17.	API	Application Programming Interface
18.	BLPQ	Basic Local Phase Quantization
19.	SGLCM	Scaled Gray Level Co-occurrence Matrix
20.	SVD	Singular Value Decomposition
21.	ED	Euclidean Distance
22.	LBPH	Local Binary Pattern Histogram
23.	DLA	Discriminative Locality Alignment
24.	FLDA	Fisher's linear discriminant analysis
25.	COCOMO	Constructive Cost Model