FINAL YEAR PROJECT REPORT

DYNAMIC SIGNATURE RECOGNITION AND VERIFICATION USING PIXEL-BASED APPROACH

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

By

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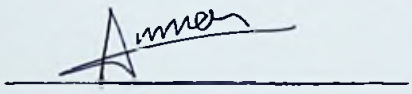
FALL-2020

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.

Name : Ammar Ahmed 

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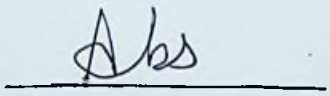
Name : Mohammad Abubakar Soomro 

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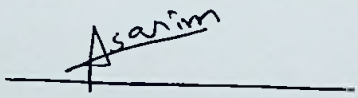
Name : Asarim Aamir 

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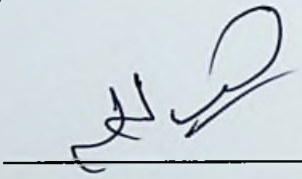
Date : 14-Dec-2020

APPROVAL FOR SUBMISSION

I/We certify that this project report entitled **"Dynamic Signature recognition and verification using pixel based approach"** was prepared by **Ammar Ahmed, Abubakar Soomro and Asarim Aamir** has met the required standard for submission in partial fulfilment of the requirements for the award of Bachelor of Computer Science (Honours) at Bahria University.

Approved by,

Signature : 

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Date : 14-Dec-2020

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In addition, we would also like to express my gratitude to our loving parent and friends who had helped and given me encouragement.

Dynamic Signature Recognition and verification using pixel-based approach

ABSTRACT

The objective of this project is to develop an online signature recognition software which can detect a signature taken by the user and then save it in database for verification purpose.

Different stages involving image processing like the pre-processing stage and verification will be studied and discussed. The coding is written in python programming language.

This project uses the Pixel Matching Technique to develop the software. Using the cv2 method, we can input our signature and then save it as an image for later purposes.

For preprocessing, we have defined the threshold of 128 which is the middle value of black and white in grey scale. Then we have applied the given threshold onto the input image. After that we have erode the image and used contours to extract the signature from the image. Then we have scaled out image into 120*80 pixels as a default image size.

Then we have saved the preprocessed image into our database by importing the pyodbc library. If a user registers his signature then by now at this point, his signature will be saved in database. The next time he has to verify the signature where he will resign his signature and then in the backend his new signature and all the signatures already saved in database will be matched by pixel matching technique. if there consists a signature in database whose pixel matches the input then the signature will be verified.

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