

**DESIGN AND CONSTRUCTION OF DIGITAL DOOR LOCK VERIFIED BY
FACE RECOGNITION SYSTEM**

By
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SWISS GERMAN UNIVERSITY

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STATEMENT BY THE AUTHOR

I hereby declare that this submission is my own work and to the best of my knowledge, it contains no material previously published or written by another person, nor material which to a substantial extent has been accepted for the award of any other degree or diploma at any educational institution, except where due acknowledgement is made in the thesis.

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ABSTRACT

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The objective of this thesis is to create a face recognition system for household door. A stepper motor is used to actuate the deadbolt lock. Using the owners face database that had been recorded into the database as the medium for the authentication and verification to move the stepper motor. Arduino and ODROID as chosen to be the main core of this project. Arduino has a vast library available in the internet while ODROID is a small powerful mini computer which able to run Qtcreator quite smooth as Qtcreator has a lot of add-ons important to write the face recognition code as well as serial communication between C++ and Arduino.

This thesis includes the background behind this thesis, the literature point of view, things that have been used in this thesis and the conclusion.

Keywords: OpenCV, digital lock, face recognition, eigenfaces, fischerfaces, face detection, Image Processing, serialport, stepper motor



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DEDICATION

I dedicated this thesis to my family, my lecturers, my friends especially “The Animal”, last but not least the university itself.



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