



Bahria University
Discovering Knowledge

FINAL YEAR PROJECT REPORT

DATA PROTECTION USING HAND GESTURE RECOGNIZATION

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2018

DATA PROTECTION ACKNOWLEDGEMENTS RECOGNITION

We would like to thank everyone who had contributed to the successful completion of this project. We would like to express my gratitude to my research supervisor, Dr. Humera Farooq for her invaluable advice, guidance and her enormous patience throughout the development of the research.

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

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ABSTRACT

The problem that created the idea for development of this project was that no system in the industry provides a security system that enables a person to lock their files without any physical contact (Text, pattern, fingerprint). Current systems in the industry provide good security options, such as password or numerical based locks, but these systems require input through a peripheral device (keyboard, fingerprint scanner). In this project, we have developed a hand gesture recognition system that is used for data protection. We have created our project using Python(Backend), and Java(Frontend). The main goal of the project is to provide data encryption and decryption using AES systems, by using only hand gestures. Our AES system is based on Java and we have used NetBeans IDE along with Python on Anaconda. We have chosen Anaconda due to its convenience and large stock of libraries. By implementing AES with our hand gesture recognition system, we have made it possible to encrypt/decrypt data with the simple use of hand movement. CNN is used for image classification. CNN allows our system to learn the gestures we provide and differentiate between them using what it has learnt. The final evaluation of all these methods and implementations gives us a system that is able to recognize and differentiate between gestures with up to 95.44% accuracy by means of CNN, and then protect our data using these gestures.

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