# IRIS RECOGNITION BIOMETRIC USING TRANSFER LEARNING AND CONVOLUTIONAL NEURAL NETWORKS

## A PROJECT REPORT

*Submitted by*

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*in partial fulfillment for the award of the*

*degreeof*

## BACHELOR OF ENGINEERING

IN

## ELECTRONICS AND COMMUNICATION ENGINEERING

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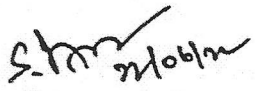
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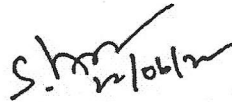
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## BONAFIDE CERTIFICATE

Certified that this project report " IRIS RECOGNITION BIOMETRIC USING TRANSFER LEARNING AND CONVOLUTIONAL NEURAL NETWORK" is the bonafide work of "OVIYA E (112818106019), SARANYA K (112818106029) SUBHIKSHA S (112818106033), SABITHA R (112818106304)" who carried out the project work under my supervision.

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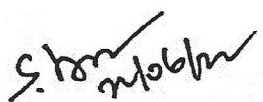T.J.S Engineering College,
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# ABSTRACT

Iris is one of the common biometrics used for identity authentication. It can identify people, with a high degree of assurance. However, when iris images have unconstrained conditions or are obtained without the cooperation of the subjects, the quality of iris images is reduced by noises such as optical and motion blur, off-angle view, specular reflection (SR), and other artifacts, thus ultimately deteriorating the recognition performance. Extracting effective features is the most crucial step in the iris recognition system. The success of deep learning incomputer vision problems has paved the way for convolutional neural networks (CNN) in iris recognition systems. This project proposes an end-to-end deep learning framework for an effective iris recognition system based on convolutional neural network (CNN) and transfer learning which is implemented by fine-tuning a pre-trained ALEXNET for feature extraction and classification that can jointly extract the features and perform recognition. We train our model on a well-known iris dataset using only a few training images from each class and test them to detect whether the iris is real or fake. Several biometric systems have incorporated iris recognition in the past, but the real question lies in two parameters: the efficiency and the number of iterations required.

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