Abstract

Identification of persons is mainly through the physiological characteristics like fingerprints, face, iris, retina, and hand geometry and the behavioral characteristics like a voice, signature, and handwriting. Identifying the author of a handwritten document has been an active field of research over the past few years and it used in many applications as in biometrics, forensics and historical document analysis. This research presents the study and implementation of the stages of writer identification, starting from data acquisition, and then augmenting the data through programming an algorithm that generate a large number of texts from the set of texts available within the database, finally building a convolutional Neural Network (CNN)) Which is useful for extracting features information and then classification the data, therefore, the features are not needed to pre-define. The experiments in this study were conducted on images of Arabic handwritten documents from ICFHR2012 dataset of 202 writer, and each writer have 3 text. The proposed method achieved a classification accuracy of 98.2426%.


**Index Terms**

Computer Science  
Artificial Intelligence

**Keywords**

Arabic handwriting, data augmentation, writer identification, deep learning, convolutional Neural Network