**ABSTRACT**

This research aims at providing a system to automatically record the students’ attendance during lecture hours in a hall or room using facial recognition technology instead of the traditional manual methods.

The objective behind this research is to thoroughly study the field if pattern recognition (facial recognition) which is very important and is used in various applications like identification and detection.   A facialrecognition systemautomatically [identifying](http://en.wikipedia.org/wiki/Identification_of_human_individuals) or [verifying](http://en.wikipedia.org/wiki/Authentication) a [person](http://en.wikipedia.org/wiki/Person) from a [digital image](http://en.wikipedia.org/wiki/Digital_image) or a [video frame](http://en.wikipedia.org/wiki/Film_frame) from a [video](http://en.wikipedia.org/wiki/Video) source. One of the ways to do this is by comparing selected [facial features](http://en.wikipedia.org/wiki/Face) from the image and a facial [database](http://en.wikipedia.org/wiki/Database_management_system).

It is typically used in [security systems](http://en.wikipedia.org/wiki/Burglar_alarm) and can be compared to other [biometrics](http://en.wikipedia.org/wiki/Biometrics) such as [fingerprint](http://en.wikipedia.org/wiki/Fingerprint) or eye [iris recognition](http://en.wikipedia.org/wiki/Iris_recognition) systems

Facial recognition [algorithms](http://en.wikipedia.org/wiki/Algorithms) identify facial features by extracting landmarks, or features, from an image of the subject's face. For example, an algorithm may analyze the relative position, size or shape of the eyes, nose, cheekbones, and jaw. These features are then used to search for other images with matching features .Other algorithms normalize a gallery of face images and then compress the face data, only saving the data in the image that is useful for face recognition