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Face Detection and Real Time Alert System Using Matlab

Sombir[1] and Hitanshu Saluja[2]
Research Scholar, Department of Electronics & Communication Engineering[1]
Assistant Professor, Department of Electronics & Communication Engineering[2]
School of Engineering & Technology, Soldha, Bahadurgarh, Haryana, India

Abstract: *Today's institutions are facing major security issues; consequently, they need several specially trained personnel to attain the desired security. These personnel, as human beings, make mistakes that might affect the level of security. A proposed solution to the aforementioned matter is a Face Recognition Security System, which can detect intruders to restricted or high-security areas, and help in minimizing human error. This system is composed of two parts: hardware part and software part. The hardware part consists of a camera, while the software part consists of face-detection and face-recognition algorithms software. "Seeing is believing", the old saying goes. Vision plays a very important role in our daily life. We should agree that the most important way to understand the world is through our eyes. Although the underlying mechanism of human vision is not clear, people can see objects and recognize them with very little effort. This ability makes us respond appropriately to our environment. The power of human vision led people to attempt the creation of a machine that could see. In particular, people believe that machines with vision capability might be able to respond to its environment, just as humans do. Such machines would be useful in minimizing human intervention in areas like surveillance and industrial flaw detection. Recognition of the human face is an important himian machine interface component. In this thesis, we present an approach for the development of a real time biometric system for detection, tracking and recognition of the human face.*

Keywords: Digital Image Processing, Face Detection, Face Recognition, Biometrics

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