

Technology face recognition for theft detection

ABSTRACT:

The main purpose of this paper is to develop a prototype of high security system for theft detection using face recognition with GSM module to send a message when face recognition fails.

The goal of this effort is to develop new algorithms for robust pose-invariant face recognition that overcome many of the limitations found in existing facial recognition systems. Specifically, we are interested in addressing the problem of detecting faces in color images in the presence of various lighting conditions and complex backgrounds as well as recognizing faces under variations in pose, lighting, and expression. This work is separated into two major components (i) Face detection and (ii) Face recognition. Specific tasks include developing modules for face detection, pose estimation, face modeling, face matching, and a user interface. We have developed a robust, near real-time face detection system from color images using a skin-tone color model and facial features. Major facial features are located automatically and color bias is corrected by a lighting compensation technique that automatically estimates the reference white pixels. This technique overcomes the difficulty of detecting the low-luma and high-luma skin tones by applying an on linear transform to the color space. We have also developed a robust face detection module to extract faces from cluttered backgrounds in still images the system is easily extended to work with video image sequences. The proposed system not only detects the face, but also locates important facial features, such as eyes and mouth. These features are crucial to the performance of the face recognition. Complexity of the image.