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Master projects (CSC 597)

1- Faces and facial features Detection and recognition in color images

   **Methodology**
   - Skin colors detection and segmentation, (done)
   - Facial features extraction,
   - Verification stage.

2- Image Fusion Based on Discrete Wavelet Transform

   Image fusion means merging two or more images to produce one image that contains the best data characteristics of all input images.
   This project presents a scheme to fuse the low-resolution multi-spectral images and its high-resolution panchromatic image based on Two Dimensional Discrete Wavelet Transform (2D-DWT).

3- Printed Arabic Characters Recognition

4- Vehicle Driver Monitoring

   Recent studies show that driver fatigue and sleeping are major causes of fatal road accidents. A large number of these accidents could be avoided if the vehicles were equipped with sensors that reliably could monitor the drivers, and systems that, based on the sensor input, could warn the drivers in time. Today, camera-based systems can measure such attention or sleeping cues. Camera-based solutions are non-intrusive, they can measure head position and orientation as well as gaze direction and eyelid closure, and they can be used to identify the driver for other tasks.

5- Fingerprints Recognition

   An automated method of verifying a match between two human fingerprints.
   Fingerprints are one of many forms of biometrics used to identify an individual and verify their identity.

6- Images and Audio Compression

7- Video Compression

   The compression of video and audio information is essentially a mathematical formula (or algorithm) which states that there are certain rules by which data can be eliminated. Compression works by recognizing areas of a frame where all the colors are the same. Duplicate data can be dropped out and reconstructed later. Also, if areas of video don't change from one frame to the next, bits can be dropped. In video where there is little movement in the frame or little camera movement, much compression can be achieved. Fast action video is much more difficult to compress.