Imaging for Concealed Weapon Detection

Abstract

In today’s world, security forms an integral part in every aspect of life. The detection of weapons concealed underneath a person’s clothing is very much important to the improvement of the security of the general public as well as the safety of public assets like airports, building and railway stations, etc. Manual screening procedures for detecting concealed weapons are common in controlled access settings like airports, entrance to sensitive buildings and public events. It is desirable sometimes to be able to detect concealed weapons from a standoff distance, especially when it is impossible to arrange the flow of people through a controlled procedure. In this project we propose an automated weapon detection using millimeter wave imagining method. The millimeter wave scans the entire body, without causing any side-effects, for concealed weapon. We enhance the millimeter wave image and follow it up with segmentation. The system has built-in intelligence to detect the concealed weapon after segmentation. We also use wavelet based fusing techniques to pin-point the position of the concealed weapon

References

- Ivan W. selesnick “The Double-Density Dual-Tree DWT”, member IEEE.
- Oliver Rockinger “Image Srquence Fusion Using a Shift-Invariant Wavelet Transform”;
- Oliver Rockinger, Thomas Fechner “Pixel-Level Image Fusion: The Case of Image Sequences”;
- http://www. academia.edu/2704626/compressive_sampling_with_unknown_blurring_function_application_to_passive_millimeter-wave_imaging

Index Terms

Computer Science

Image Processing
Keywords
Detection  Wavelets  Image Segmentations  Fusion  Image Denoising