DISGUISE FACE RECOGNITION USING NEURAL NETWORK METHOD

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Abstract

Face recognition, can be applied for law enforcement’s operational business. Such as monitoring border crossing, identifying terrorists, controlling access to sensitive areas, tracking drug traffickers, and sex offenders.

This final project presents face recognition method aimed for main problem when an individual intentionally change his/her appearance and feature using disguise. Face recognition systems should be capable of identifying individuals who deliberately alter their appearances and face features use disguises to defraud law enforcement and public so that remain elusive.

Method that used in this final project is neural network. Disguised face image is convoluted with log Gabor filter. Extraction of this convolution result is conducted to obtain phase feature of face texture. Phase feature then transformed using wavelet and classified with neural network as classifier. Performance of the method is tested using database of synthetic face image consisting of couple disguise. Method performance test is conducted by giving input image for detected with disguise variation, and method performance compare test with PCA method. In that test, proposed method shows the good performance which has percentage level of identification accuracy average for all disguise above 70% and prove more accurate than PCA method.

Keywords : face recognition, face disguise, logGabor wavelet transform, phase feature, neural network