



Thesis Title	" Multi-biometric System for Security Institutions"	
Research Field	Computer Engineering	
Supervisor Name(s)	Dr. Mohammed Najm Abdallah Dr. Hassan A. Jeiad	
Student Name	Reem Ali Hussein	
Abstract		
<p>Biometric systems are currently considered one of the leading methods for security and access control systems. The use of multibiometric in verification and identification provides more reliability and accuracy for such systems.</p> <p>This work aims to present a multibiometric model (MBM) that performs identification and gives an accurate and reliable results. Three types of biometric traits have been selected for this work which are face, iris and fingerprint for identification purpose.</p> <p>MBM design and implantation go through a series of procedures. Preprocessing of the traits images using morphological operations is followed by feature extraction. Singular value decomposition is utilized as a mean of optimizing for the extracted features. Wavelet decomposition is employed to serve as dimension reduction tool. Backpropagation neural network was employed for the training of the first model MBM-ANN. While support vector machine was employed for the second model MBM-SVM.</p> <p>The results showed a highly accurate recognition rate for both models. MBM-ANN achieved 95% recognition rate while MBM-SVM achieved 100% recognition rate. There are a few tradeoffs between the two models in terms of training time, testing time and the required memory space to store the template obtained from training moth models</p>		
Student email	revoalazawi@gmail.com	