Appendix A
Biometric and Multibiometric Databases

A1 CASIA Iris Database

This database was designed by NLPR (National Laboratory of Pattern Recognition – Chinese Academy of Sciences). CASIA-IrisV1 database consists of images from 108 different eyes with 7 images per eye. These 7 samples were collected over two different sessions with 4 samples in one session and 3 in the other. Images are 320×280 pixels gray scale taken by a digital optical sensor.

CASIA-IrisV3 database is a superset of CASIA-IrisV1 database and it consists of three subsets *viz*. CASIA-IrisV3-Interval, CASIA-IrisV3-Lamp and CASIA-IrisV3-Twins. The present work employs iris images from CASIA-IrisV3-Interval. It consists of 2655 gray scale iris images of size 320×280 pixels collected from 249 subjects.

These databases are employed in iris recognition, multiple classifier biometric system and cancelable multibiometrics experiments.

URL: http://www.cbsr.ia.ac.cn/IrisDatabase.htm.

A.2 FVC2004-DB3 Fingerprint Databases

FVC2004-DB3 was one of the benchmark databases used in the Fingerprint Verification Competition 2004. The fingerprints of FVC2004 DB3 were acquired through thermal sweeping sensor "FingerChip CD4B14CB" by Atmel. It consists of 800 gray scale fingerprint images of size 300×480 pixels. In this research work, this database is employed in multimodal system and cancelable multibiometrics experiments.

URL: http://bias.csr.unibo.it/fvc2004/

A.3 MCYT-SCORES Database

MCYT is a bimodal biometric database in which fingerprint and signature have been the selected biometric modal and the maximization of the significance has been carried out in two different ways (Ortega-Garcia *et al*., 2003). The former strategy has led to MCYT baseline corpus and the later one has led to MCYT extended corpus. In MCYT baseline corpus, fingerprint and signature of 330 individuals have been acquired. The MCYT extended corpus had acquired 100 more individuals in a multi-session procedure, to incorporate intrinsic short-term signature variability, signature size variability, over-the-shoulder and time constrained signature forgeries and several sensor devices for fingerprint acquisition. In the MCYT-score database, there are three datasets of bimodal matching scores for two biometric traits namely, signatures and fingerprints from 75 subjects of the MCYT database, together with scalar fingerprint quality measures labeled by a human expert, corresponding to:

A. The highest quality finger for 90% of the subjects, the lowest quality finger for the remaining 10%. This setup is used in where the baseline signature and fingerprint systems are sketched, and a SVM-based user-dependent fusion scheme is proposed and studied and where a more efficient Bayesian user-based fusion scheme is proposed and studied.

B. The highest quality finger for the 95% of the 75 subjects, the lowest quality finger for the remaining 5%.

C. The index finger for all subjects with the previous setup 95%-5%

In this experiment, the second dataset i.e. the highest quality finger for the 95% of the 75 subjects, the lowest quality finger for the remaining 5% is employed. This setup is used in Fierrez-Aguilar *et al*. (2005).

URL: http://atvs.ii.uam.es/mcytscores.html.