DEALING WITH VARIABILITY FACTORS AND ITS APPLICATIONS TO BIOMETRICS AT A DISTANCE

Ph.D Thesis by Pedro Tome (2013)

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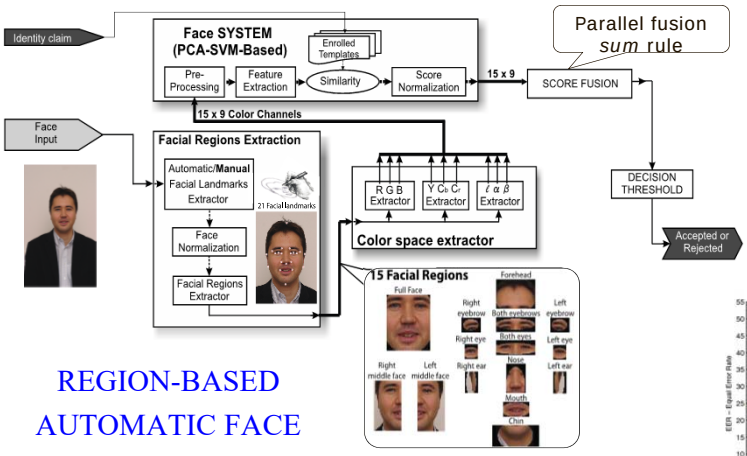
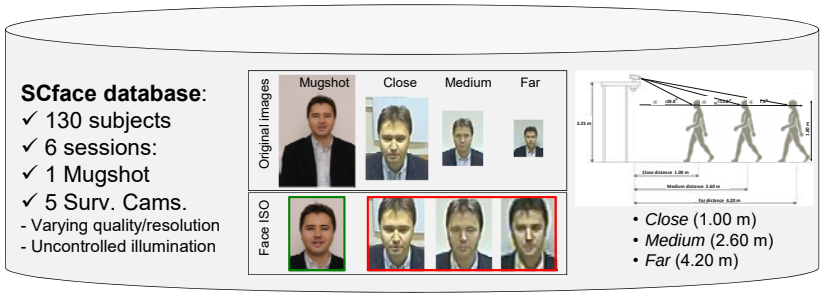
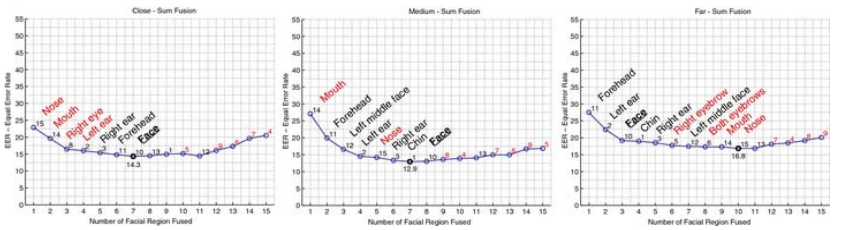
THE THESIS:

The incorporation of soft biometrics information through adaptive fusion to person recognition systems working at a distance can provide significant benefits in these very challenging scenarios. In particular, the variability factors found in practical biometrics applications working on the move or at a distance can be compensated to some extent exploiting this idea.

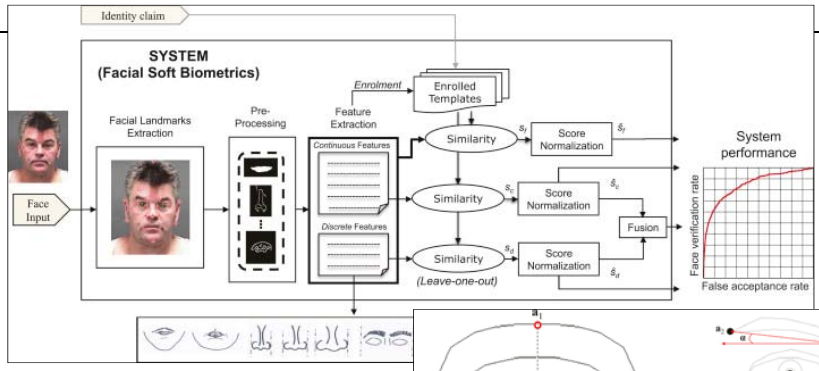


REGION-BASED AUTOMATIC FACE RECOGNITION [2,4]

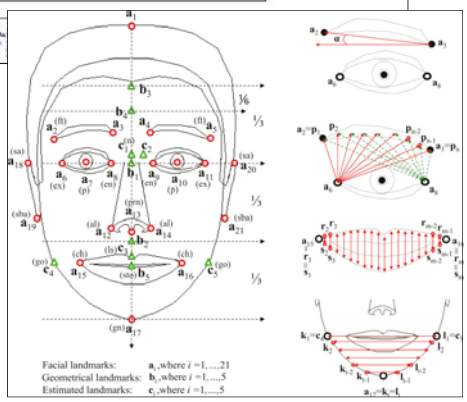


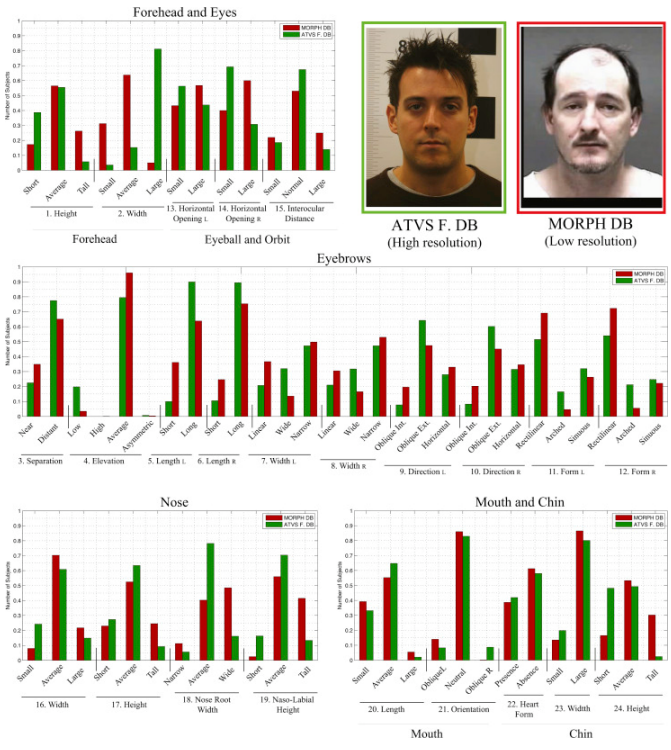


Mugshot vs CCTV



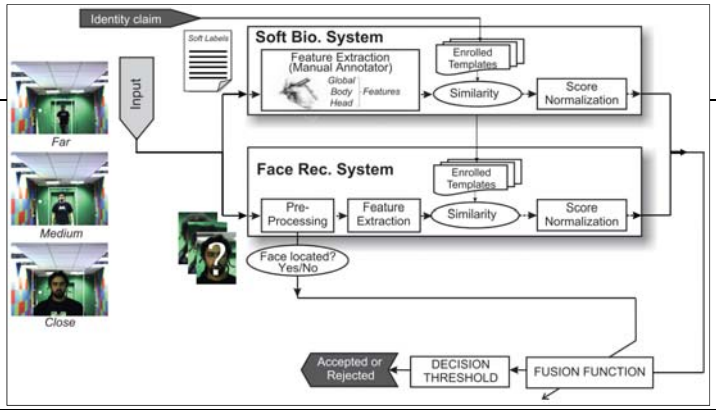
FACIAL SOFT BIOMETRICS (LABELS) [1]



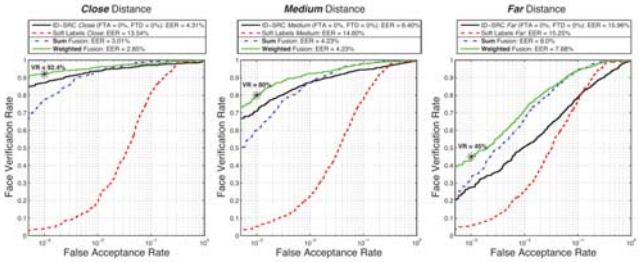


ATVS F. DB (High resolution)

MORPH DB (Low resolution)



AUTOMATIC FACE RECOGNITION + SOFT LABELS [3]



Key publications:

[1] Pedro Tome, Ruben Vera-Rodriguez, Julian Fierrez, Javier Ortega-Garcia, "Facial soft biometric features for forensic face recognition", ***Forensic Science International***, December 2015.

[2] Pedro Tome, Julian Fierrez, Ruben Vera-Rodriguez, Javier Ortega-Garcia, "Combination of Face Regions in Forensic Scenarios", ***Journal of Forensic Sciences***, July 2015.

[3] Pedro Tome, Julian Fierrez, Ruben Vera, Mark Nixon, "Soft biometrics and their application in person recognition at a distance", ***IEEE Trans. on Information Forensics and Sec.***, March 2014.

[4] Pedro Tome, Julian Fierrez, Ruben Vera-Rodriguez, Daniel Ramos, "Identification using face regions: Application and assessment in forensic scenarios", ***Forensic Science Intl.***, Dec. 2013.