CSci 158 - Group Project (2 students maximum)

In this project, you have maximum freedom so the project can fit your career and research interests.

Part 1. (10 points)

Write a literature review related to a specific type of biometric application (fingerprint, face, gait, …). Your report must include at least ten citations and, therefore, at least ten references.
The report should be one page (Arial, size 10), with the references on a separate page.
The report is worth 5 points.

A PowerPoint presentation (12 slides) corresponding to your literature review using images and key statements from what you obtained.
You will have to record your presentation (10 minutes maximum).
The PowerPoint presentation is worth 5 points.

Part 2. Implementation (10 points)

Implement a biometric system of your choice related to the type of application you considered in Part 1.

A pattern recognition system includes different steps: feature extraction, feature selection, classification, and performance evaluation.

Your contribution can be one of the following possibilities:

1. You implement the data preprocessing feature extraction from scratch and use an existing MATLAB classifier.
2. You implement the classification part from scratch, and the feature extraction can come from the existing MATLAB functions.
3. You can use existing MATLAB functions for classification and feature extraction, but you must use different methods and compare their performance.

You can use MATLAB or Python for the implementation. The code that you will provide should be commented on and ready to run.

You will provide a short report on your system's performance using related performance measurements (accuracy, FPR, TPR, ROC curve, confusion matrix, …).