COMP 6211 Biometrics Coursework

A system is required to recognise people by images of their body shape. You are provided with images of clothed subjects standing on a (static) treadmill in our gait laboratory. This is part of the Large Southampton Gait Database [Shutler et al 2004]. You are required to design a biometric system that can be used to recognise these subjects as individuals. The dataset is in two folders: in the first folder two images are available for each subject, the second folder repeats some subjects, but not all of these subjects, again in two views. You should not use the subject identification number for recognition, it is there to aid development.
The main objectives are to derive measures that can:
i) show a histogram of distances between the subjects;
ii) provide Correct Classification Rates for subject recognition; and
iii) provide Equal Error Rates for subject verification.
You can use any implementation system, though reward will be made for sophistication. A basic system could use manual measurement, an Excel spreadsheet and compare recognition and verification performance with a random result. More sophisticated versions can include computer vision approaches and aim for automated recognition and verification of these subjects by their body image.
You are required to write a max 2000 word report describing your approaches and your results. The report should be submitted zipped together with any operational code. The format of the report should be Abstract, Intro, Method, Results, Discussion, Conclusions and References (if any). The zipped file should be submitted to the ECS Handin system, by 4 May 2020.

The marking scheme is:
Report presentation 25%
Recognition performance 25%
Selection and justification of approaches used for feature extraction 25%
Analysis of the overall method: advantages, disadvantages and future directions 25%
Total 100%

This coursework will constitute 30% of the total assessment for COMP 6211 Biometrics

References

[Shutler04] JD Shutler, MG Grant, MS Nixon, JN Carter, On a large sequence-based human gait database, *Proc. Applications and Science in Soft Computing*, pp 339-346, 2004
http://link.springer.com/chapter/10.1007/978-3-540-45240-9_46#page-1

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