System 1 Evaluation

1	Plot the genuine and impostor score distributions.
Result	Look for images in Zip folder
2	Plot the Cumulative Match Characteristic curves.
Result	Look for images in Zip folder
3	calculate the d' (decidability index).
Result	d’ = 4.067372
4	what is the lowest rank at which the system achieves recognition performance **at least** 85%?
Result	Rank(atleast 85%) = 1
5	Plot the Receiver Operating Characteristic (GAR vs. FAR).
Result	Look for images in Zip folder
6	Calculate the Equal Error Rate. At what operating point is this rate achieved for each system?
Result	EER = 3.75 % at threshold = 69.822
7	Determine what the FRR is when the FAR = 1%, FAR = 5%, FAR = 10%, and FAR = 20%.
Result	FRR (when FAR = 1%) = 5.5% FRR (when FAR = 5%) = 3.25% FRR (when FAR = 10%) = 2.5% FRR (when FAR = 20%) = 1.75%

System 2 Evaluation

1	Plot the genuine and impostor score distributions.
Result	Look for images in Zip folder
2	Plot the Cumulative Match Characteristic curves.
Result	Look for images in Zip folder
3	Calculate the d' (decidability index).
Result	d’ = 1.228702
4	What is the lowest rank at which the system achieves recognition performance **at least** 85%?
Result	Rank(atleast 85%) = 200
5	Plot the Receiver Operating Characteristic (GAR vs. FAR).
Result	Look for images in Zip folder
6	Calculate the Equal Error Rate. At what operating point is this rate achieved for each system?
Result	EER = 27.5 % at threshold = 138.3837
7	Determine what the FRR is when the FAR = 1%, FAR = 5%, FAR = 10%, and FAR = 20%.
Result	FRR (when FAR = 1%) = 59% FRR (when FAR = 5%) = 45.25% FRR (when FAR = 10%) = 39.5% FRR (when FAR = 20%) = 31.75%

8	Which of the systems would you consider the best performing? Explain how you came to this determination.
Solution	Considering the system evaluation performed earlier, System 1 has best performance than system 2. Following are the reasons to consider system 1 as best system: • Score Distributions: The peaks in score distributions of system 1 are fairly separated as compared to peaks of system 2. Moreover, deviation of genuine score distribution of system 2 is more than system 1. Hence, System 1 is better than system 2. • CMC Curve: If we consider the CMC and ROC curves of both systems, System 1 has better performance than system 1. • d-prime: The d-prime value of system 1 is more than system 2. Hence, System 1 is better than System 2