

1996 Paper 12 Question 12

Computer Vision

Discuss the problem of face recognition and face detection based on wavelet encodings of facial structure and facial features. How can one distinguish between those facial undulations that are generic (universal, or normally present in all faces), and those which are particular to a given face and which therefore distinguish it from others? How can statistical decision theory formalize these two pattern recognition problems – face detection and face recognition? What are the main advantages and disadvantages of using wavelets for the encoding of faces? [20 marks]