2000 Paper 9 Question 12

Computer Vision

Define the *Correspondence Problem*, detailing the different forms that it takes in stereo vision and in motion vision.

(*a*) In each case, explain why the computation is necessary.   [5 marks]

(*b*) What are the roles of space and time in the two cases, and what symmetries exist between the stereo vision and the motion vision versions of the Correspondence Problem?   [5 marks]

(*c*) How does the complexity of the computation depend on the number of underlying features that constitute the data?   [5 marks]

(*d*) Briefly describe at least one general approach to an efficient algorithm for solving the Correspondence Problem.   [5 marks]