2001 Paper 13 Question 12

Computer Vision

Give *three* examples of problems in computer vision which are formally ill-posed. In each case explain how one or more of Hadamard's criteria for well-posed problems has failed to be satisfied. Illustrate how addition of ancillary constraints or assumptions, even metaphysical assumptions about how the world behaves, enable one to convert the ill-posed problem into a well-posed problem. Finally, discuss how the use of Bayesian priors can perform this function.

[20 marks]