

CE956: Statistical Learning
Department of Computer Engineering
Sharif University of Technology
Spring 2019: Room CE204, Sat. & Mon.: 13:30-15:00

Quiz 02 (20 Points) – (March-02-2019)

Solution

Gaussian Process: (10 points each)

1. Can object recognition be solved by a Gaussian Process (GP) Regression?
 - Yes. (Please refer to the class notes and reference papers).
Given an image x , predict the class of the object present in the image y (i.e. $y = \{\text{car, bus, bicycle}\}$). Although this is a classification task, one can treat the categories as real values and formulate the problem as regression and solve the regression problem with GP.
2. Given an overdetermined system of equations ($y = mx+c$) (i.e. 3 equations 2 unknowns), can we solve this system with GP?
 - Yes. (Please refer to the class notes and reference papers).
This is also a regression problem. Just add some noise to the system of equations with the proper assumption and solve this regression problem with GP.