Take-Home Quiz 1 - Part 2 (Gaussian Process)

1 Gaussian Process Regression

Let X, y be training data where y is labels and X^*, y^* be test data and let K be some kernel function. Suppose that:

$$\begin{bmatrix} y \\ y^* \end{bmatrix} \sim \mathcal{N}(\mathbf{0}, \begin{pmatrix} K(X,X) & K(X,X^*) \\ K(X^*,X) & K(X^*,X^*) \end{pmatrix}) \tag{1}$$

The posterior distribution will be like $P(y^*|X^*, X, y) = \mathcal{N}(\mu, \Sigma)$. What are μ, Σ?

You may assume that the conditional distribution is in normal form.