CSCI3320 Homework 4 1155110208 / Chung Tsz Ting

1. As the probability density function of multivariate normal distribution is for and .

1. To make a quadratic fit using the two variable and , we first have the model of linear regression where , , and with parameters from i=0 to 5 be randomly initialized. Then with the given sample of , the parameters can be optimized by calculating the expected outcome by and performing gradient descent to find the minimum of the loss function i.e. . [where the optimization equation is ]