In this section, we learn about the used machine learning method used for the prediction of software reliability based on past failure behaviour of software system. SVM is system, which constructs a N-dimensional hyperplane that optimally separates the data set into two categories. Though it was originally introduced for classification purposes it is wildly used for regression purposes. The basic idea of support vector regression is to map any input data into a higher dimensional feature space via a non linear mapping function. this is one to get a linear regression and we solve it in that feature space.

Given a training set of l examples {(x1, y1), (x2, y2), . . . , (xl, yl)} where xi is the input of dimension n and y is the output. We want the problem to be a linear one i.e.

f(x)=(w·x)+b, w∈Rn, b∈R,

We define the cost function to be the following, and the line producing the least cost is selected