

A note on kernel principal component regression

Abstract

Kernel principal component regression (KPCR) was studied by Rosipal et al. [18, 19, 20], Hoegaerts et al. [7], and Jade et al. [8]. However, KPCR still encounters theoretical difficulties in the procedure for constructing KPCR and in the choice rule for the retained number of principal components. In this paper, we revise the method of KPCR to overcome the difficulties. The performance of the revised method is compared to linear regression, nonlinear regression based on Gompertz function, and nonparametric Nadaraya-Watson regression, and gives better results than those of the three methods.