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Kernel functions based on the sampling theorem

Abstract

The kernel method is one of the ways for nonlinear data analysis, which has some disadvantages in calculation due to its nature. In order to improve these points, we shall introduce the sampling function $\frac{\sin x}{x}$ as a positive definite kernel. We will show some comparison the 1-dimensional and 2-dimensional kernel regressions by our kernels and those by the Gaussian RBF kernels.