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SOME METHODS OF CONSTRUCTING KERNELS IN STATISTICAL LEARNING

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Abstract

This paper is a collection of numerous methods and results concerning a design of kernel functions. It gives a short overview of methods of building kernels in metric spaces, especially R^n and S^n. However we also present a new theory. Introducing kernels was motivated by searching for non-linear patterns by using linear functions in a feature space created using a non-linear feature map.

Keywords: positive definite kernel, dot product kernel, statistical kernel, SVM, kPCA.

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