

The representer theorem for Pontryagin spaces of vector-valued functions

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Abstract:

Given a positive definite kernel ϕ , there is an associated reproducing kernel Hilbert space with reproducing kernel ϕ . The fact that the solution of certain penalized approximation problems, e.g. the smoothing spline problem, is given as a linear combination of “point evaluations” of the kernel ϕ is commonly referred to as the representer theorem in machine learning. The talk will discuss the analog statement for a conditionally positive definite, matrix-valued kernel, where the associated space turns out to be a reproducing kernel Pontryagin space of vector-valued functions.

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