

The Christoffel-Darboux Kernel for Data Analysis

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Abstract If the Christoffel-Darboux (CD) kernel is well-known in theory of approximation and orthogonal polynomials, its striking properties seem to have been largely ignored in the context of data analysis (one main reason being that in data analysis one is faced with measures supported on finitely many points (the data set)). In this talk, we briefly introduce the (CD) kernel, some of its properties, and claim that it can become a simple and easy to use tool in the context of data analysis, e.g. to help solve some problems like outlier detection, manifold learning and density estimation.