Positive Definite Kernels: Past, Present and Future

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Abstract

Positive definite kernels play an increasingly prominent role in many applications such as scattered data fitting, numerical solution of PDEs, computer experiments, machine learning, rapid prototyping and computer graphics. We discuss some of the historical and current developments of the theory and applications of positive definite kernels – always with an eye toward the mathematics of Göttingen in general and Robert Schaback in particular. A few comments concerning the future of the field are also provided.