

Approximating multivariate functions in high dimensions

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Approximating multivariate functions in high dimensions suffers from the so called curse of dimensionality and is in general intractable. Unfortunately these problems appear in several interesting problems as modeling physical or biological systems. Therefore we have to introduce special structures. A possible idea is that the function does not really depend on all of the variables, but in a linear combination of them. In this talk we will introduce the concept of ridge functions and see that the recovery of those functions from point queries is tractable.