

Detecting hidden structure with deep kernel learning

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Abstract

In this talk we deal with chained approximations by linear combinations of kernel translates and briefly discuss their relationship to deep neural networks. We introduce a representer theorem for these kinds of approximations for both the finite-data setting and for the case of infinitely many data points. We provide numerical examples to illustrate how function reconstruction and machine learning tasks can be tackled. We also illustrate how these approximation systems are detected and exploit intrinsically low-dimensional structures in a data set.