Characteristic Tensor Product Kernels*

Zoltán Szabó† (CMAP, École Polytechnique)

Abstract

Hilbert-Schmidt independence criterion (HSIC) is among the most popular and efficient approaches in data science and statistics to measure the dependence of random variables. Thanks to its kernel-based foundations, HSIC is applicable on numerous domains; examples include documents, images, trees, graphs, time series, dynamical systems, sets or permutations. Despite its tremendous practical success, quite little is known about when HSIC characterizes independence. I am going to provide a complete answer to this question.

- Preprint: `https://arxiv.org/abs/1708.08157`

*Conference of the International Society for Non-Parametric Statistics (ISNPS), Salerno, Italy, 11-15 June 2018; abstract.

†Joint work with Bharath K. Sriperumbudur (Department of Statistics, PSU).