
Hypothesis Testing with Kernels*

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Abstract

In my talk, I am going to focus on two tasks: two-sample testing, and independence testing. In the first setting, we are given two sets of observations, and our goal is to check whether the two sets are statistically indistinguishable (this may be thought of as a generalization of a t-test). In the second setting, we have paired samples, and the goal is to determine whether they are independent (this generalizes the Pearson correlation test). Both tests are built around kernels, which are natural measures of similarity between objects, and have been developed for a very wide variety of domains. Thus, the tests apply to data as diverse as text, images, time series or graphs.

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