



Kernelized Stein Discrepancy Tests of Goodness-of-fit for Time-to-Event Data

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Abstract:

In this talk I will present a novel nonparametric goodness-of-fit method for time-to-event data based on the combining the Stein's method with kernel methods typically studied in Machine Learning. In particular, we will focus in the so-called right-censored data setting that typically arises in areas such as Survival Analysis. Then, our main novelty is the extension of kernelized Stein discrepancy tests from the uncensored data setting to the right-censored one. The main obstacle in doing this is that while for uncensored data there is a natural way of implementing kernelized Stein discrepancy tests, for censored data there are several reasonable options, each of them with different advantages and disadvantages. In this talk, I will discuss a few of these options, along with a theoretical and a simulation-based analysis of our methods.

Keywords:

Stein's method; Right-censored data; Kernel methods; Goodness-of-Fit