

Nonparametric Estimations of Non-Negative Random Variables Distributions.

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Abstract: The problem of estimation of distribution functions or fractiles of non-negative random variables often occurs in the tasks of risk evaluation. There are many parametric models, however sometimes we need to know also some information about the shape and the type of the distribution. Unfortunately, classical approaches based on kernel approximations with a symmetric kernel do not give any guarantee of non-negativity for the low number of observations. In this note a heuristic approach, based on the assumption that non-negative distributions can be also approximated by means of kernels which are defined only on the positive real numbers, is discussed.

Keywords: distribution function; kernel approximation; non-negative random variable;

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