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Mathematics > Statistics Theory

General bootstrap for dual phi-divergence estimates

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A general notion of bootstrapped ϕ-divergence estimates constructed by exchangeably weighting sample is introduced. Asymptotic properties of these generalized bootstrapped ϕ-divergence estimates are obtained, by mean of the empirical process theory, which are applied to construct the bootstrap confidence set with asymptotically correct coverage probability. Some of practical problems are discussed, including in particular, the choice of escort parameter and several examples of divergences are investigated. Simulation results are provided to illustrate the finite sample performance of the proposed estimators.

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