Bootstrap Consistency of Semiparametric Models

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Abstract

Semiparametric modelling has provided an excellent framework for the modern complex data due to its flexibility to model some features of the data parametrically but without assuming anything for the other features. The bootstrap is the most popular data-resampling method used in statistical analysis, and has recently been applied to the semiparametric models arising from a wide variety of contexts. Hence, the focus of this talk is to prove the theoretical validity of the bootstrap method when being applied to the semiparametric models, i.e. the consistency of bootstrap distribution, bootstrap confidence set and bootstrap hypothesis testing on the parametric component of the semiparametric models.