北京理工大學

数学与统计学院学术报告

Conditional Two-Sample Testing for Right-Censored Survival Data

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地 点： 文萃楼E 218

摘 要： We consider testing equality of two conditional event-time distributions when event times are right censored and the covariate distributions may differ between groups. Marginal survival tests do not target this null, and complete-data conditional two-sample tests applied only to observed failures need not control type I error when censoring differs between groups. We construct an omnibus test from a counting-process score associated with a local multiplicative perturbation of a common conditional hazard. The score residualizes the group indicator by its time-dependent risk-set propensity. It characterizes the null, is doubly robust under the null, and is Neyman orthogonal with respect to the working hazard and the risk-set projection. The procedure uses one subsample to learn a time- and covariate-dependent direction and an independent subsample to evaluate a two-sided studentized score. We prove uniform asymptotic size control without consistency of the learned direction, uniform consistency beyond the $n^{-1/2}$ detection boundary, and a folded-normal limit under local alternatives. The local power depends on the information alignment between the learned and oracle directions. Numerical studies demonstrate that the proposed method effectively controls Type I error and achieves superior power compared to existing competitive methods.

个人简介： 钟齐先，厦门大学统计学与数据科学系副教授、博士生导师。主要研究领域包括生存数据分析、深度学习、函数型数据分析和因果推断等。相关学术成果发表于AOS、JASA、Biometrika、JOE、JBES等学术期刊。主持国家自然科学基金青年项目和面上项目，作为主要成员参与国家重点研发计划青年科学家项目，并担任Journal of Nonparametric Statistics副主编。

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