Contribution ID: **51** Type: **not specified**

Two-sample tests based on data depth

Monday, 16 September 2024 11:30 (30 minutes)

The focus is on the homogeneity test that evaluates whether two multivariate samples come from the same distribution. The problem arises naturally in various applications, and many methods are available in the literature. Based on data depth, several tests have been proposed for this problem, but they may not be very powerful. In light of the recent development of data depth as an important measure of quality assurance, two new test statistics are proposed for the multivariate two-sample homogeneity test. The proposed test statistics have the same chi-squared asymptotic null distribution. The generalization of the proposed tests into the multivariate multisample situation is also discussed. Simulation studies demonstrate the superior performance of the proposed tests. The test procedure is illustrated through two real data examples.

Type of presentation

Talk

Classification

Both methodology and application

Keywords

Homogeneity test, Data depth, Multivariate analysis

Primary author: Prof. FU, Yuejiao Cindy (York University)

Presenter: Prof. FU, Yuejiao Cindy (York University)

Session Classification: ISBIS invited session: Advancements in Data-driven Insights

Track Classification: Other/ Special/ Invited