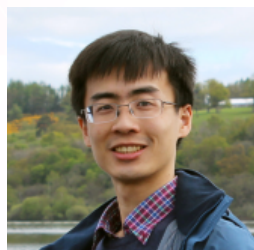


고려대학교 통계학과 석학 초청 세미나

Sparse Change Detection in High - Dimensional Linear Regression

2022. 9. 2. (금) 오전 11시 ~ 오후 12시

고려대학교 정경관 618호 with Online (click)*



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Abstract

We introduce a new methodology 'charcoal' for estimating the location of sparse changes in high-dimensional linear regression coefficients, without assuming that those coefficients are individually sparse. The procedure works by constructing different sketches (projections) of the design matrix at each time point, where consecutive projection matrices differ in sign in exactly one column. The sequence of sketched design matrices is then compared against a single sketched response vector to form a sequence of test statistics whose behaviour shows a surprising link to the well-known CUSUM statistics of univariate changepoint analysis. Strong theoretical guarantees are derived for the estimation accuracy of the procedure, which is computationally attractive, and simulations confirm that our methods perform well in a broad class of settings.

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