2019년 제 6회 통계세미나

통계연구소에서는 다음과 같이 통계 세미나를 개최하오니 많은 참여 바랍니다.

일시 : 2019년 7월 3일 (수) 오후 5시
장소 : 정경관 618호(최고위과정실)
연사 : Prof. Jun Song (Dept. Mathematics and Statistics, UNC at Charlotte)

Nonlinear and additive principal component analysis for functional data

<Abstract>

In this talk, I will discuss a nonlinear and additive version of principal component analysis for vector-valued random functions. This is a generalization of functional principal component analysis that allows the relations among the random functions involved to be nonlinear.

The method is constructed via two additively nested Hilbert spaces of functions, in which the first space characterizes the functional nature of the data, and the second space captures the nonlinear dependence. In the meantime, additivity is imposed so that we can avoid high-dimensional kernels in the functional space, which causes the curse of dimensionality. Simulation results show that the new method outperforms functional principal component analysis when the relations among random functions are nonlinear. Application to online handwritten digit data will be presented.

고려대학교 통계연구소