Semiparametric Latent Feature Regression Models for Data with Longitudinal Covariate Process

Naisyn Wang
Texas A&M University

We consider a joint model approach to study the association of nonparametric latent features of multiple longitudinal processes with a primary endpoint. We propose estimation procedures and corresponding supportive theory that allow one to perform investigation without making distributional assumption of the latent features. The uncertainty which is associated with accounting for these latent features is also properly taken into consideration. We investigate the practical implications behind certain theoretical assumptions, which aims at having a better understanding of where the estimation variation lies. Numerical performances of the proposed approach were illustrated through simulations and a hypertension study.