Hao Chen

(University of Davis, USA)

Title:

Change-point analysis for modern data

Abstract:

After observing snapshots of a network, can we tell if there has been a change in dynamics? After collecting spiking activities of thousands of neurons in the brain, how shall we extract meaningful information from the recording? We introduce a change-point analysis framework utilizing graphs representing the similarity among observations. This approach is non-parametric and can be applied to data when an informative similarity measure can be defined. Analytic approximations to the significance of the test statistics are derived to make the method fast applicable to long sequences. The method is illustrated through the analysis of the Neuropixels data.