ASHBi SEMINAR

Introduction to statistical causal discovery

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Time 16:00 – 17:00 [JST]

Venue Conference Room
B1F, Faculty of Medicine Bldg. B

*Register via the right QR code

Abstract

A central problem in science is to elucidate the causal mechanisms underlying natural phenomena and human behavior. Statistical causal inference is a methodology that combines domain knowledge and data to support decision-making based on understanding causal mechanisms. It offers various tools to study such mechanisms. However, due to a lack of background knowledge, preparing causal graphs required for performing statistical causal inference is often difficult. To alleviate this difficulty, a lot of work has been conducted to develop statistical methods for estimating causal relationships, i.e., the causal structure of variables, from observational data obtained from sources other than randomized experiments. Statistical causal discovery is such a methodology that uses data to infer the causal structure of variables. This talk outlines the basic ideas and typical approaches of statistical causal discovery and introduces several code packages. In particular, I will focus more on methods based on non-Gaussianity and non-linearity and provide more detail. For more information on these methods and their applications, see https://www.shimizulab.org/lingam/lingampapers.

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