Computer Science
Seminar

The Search For Causal Explanations In The Presence Of Latent Confounders

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Abstract: The task of establishing a causal model that best explains the data is fundamental across scientific disciplines. However, data-driven causal model selection, a.k.a causal discovery, is often complicated by the presence of latent confounders, which makes it difficult to tease apart causal relations from spurious correlations. In this talk, I first motivate the need for causal model selection via my research in computational oncogenomics. I then describe my contributions to the development of algorithms for causal discovery in the presence of latent confounders, and other related phenomena such as latent homophily. I conclude with a forward-looking research agenda in the development of causal inference and missing data methods to correct for understudied yet ubiquitous sources of bias, with an emphasis on applications that improve public health outcomes.

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