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Causal Structure and Argumentative Value

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Abstract

Recent years have seen a surge of interest in probabilistic measures of argument strength. Such measures have been used to elucidate longstanding questions of both theoretical and practical interest around fallacies of argumentation, scientific argument, legal argument, or argument and evidence aggregation. The measures typically used have drawn, in one form or other, on conditional probability as a central component for measuring argument quality, strength or confirmation. Work in this area has also consistently highlighted the value of Bayesian Belief Networks for computing argument strength in multi-argument (variable) contexts. However, to date, there has been no consideration of whether the key structural property underlying such networks – the notion of conditional independence- has a bearing on argument quality. In this paper, we consider the potential impact of causal structure on the utility of arguments.