

Abstract Submitted
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The Elusive Present: Hidden Past and Future Correlation and Why We Build Models¹ POONEH MOHAMMADIARA, Univ of California - Davis — Markov models assume that the present encodes all of a process's history. This is almost never the case if one randomly samples structured processes. So, how does this failure come about? How do measurements encode the past? And, how many are needed to capture correlations between the past and future? Here, we show how much information can be extracted from the past without having any information about the present. We show how to quantify this and then draw out the consequences. The most important of which is that when present hides past-future correlation we must build models.

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