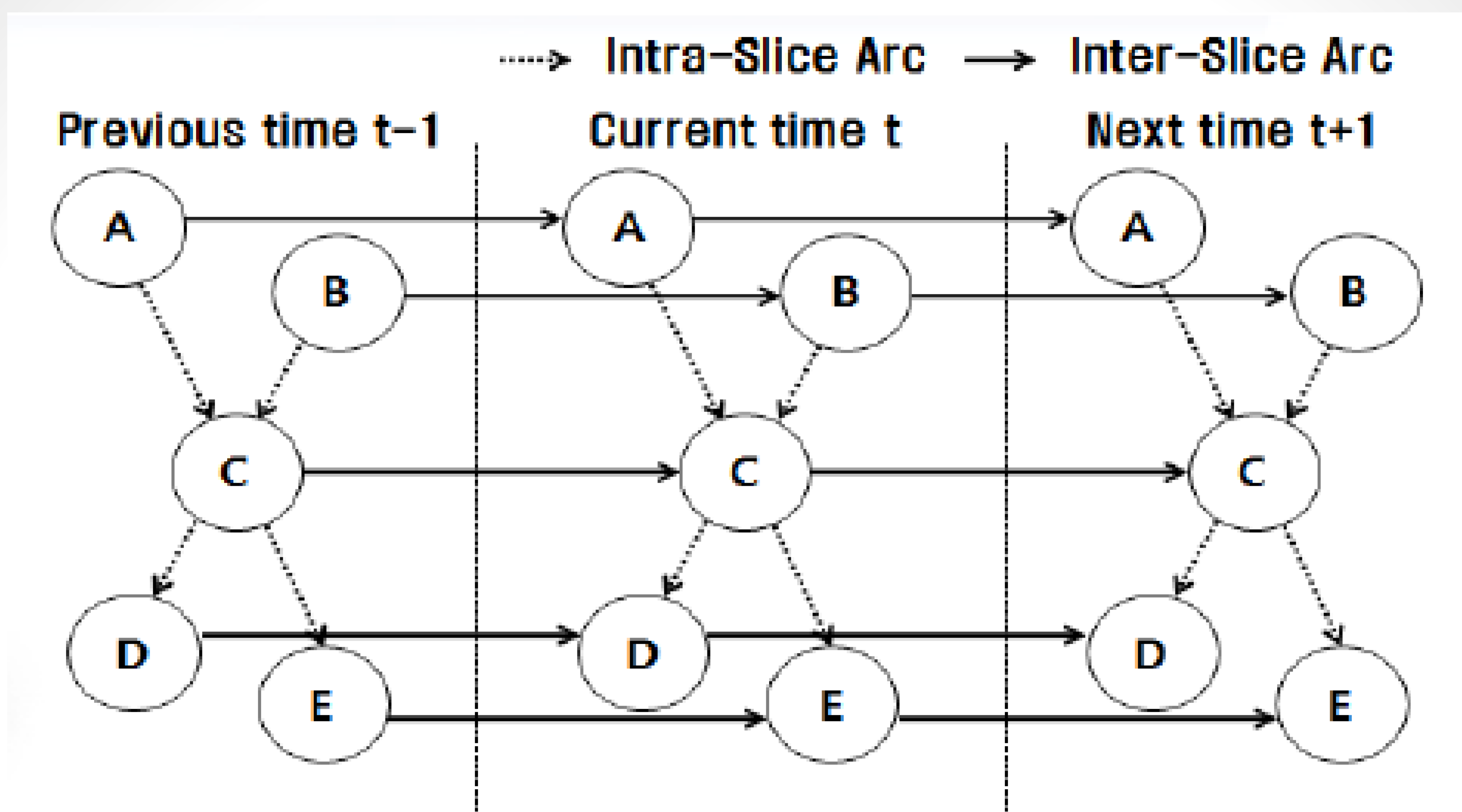


PAMBAYESIAN

Develop algorithmic inference approach for dynamic Bayesian networks

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What

A dynamic Bayesian network (DBN) is a way to extend Bayesian networks to model probability distributions over semi-infinite collections of random variables.

Why

All variables in a DBN usually become inter-dependent over time, then exact inference in it requires tracking the joint probability distribution over all variables. This is generally intractable.

How

In contrast to existing approximate inference algorithms, we're developing an exact inference algorithm that uses only the joint distributions over much smaller subgroups of the variables.