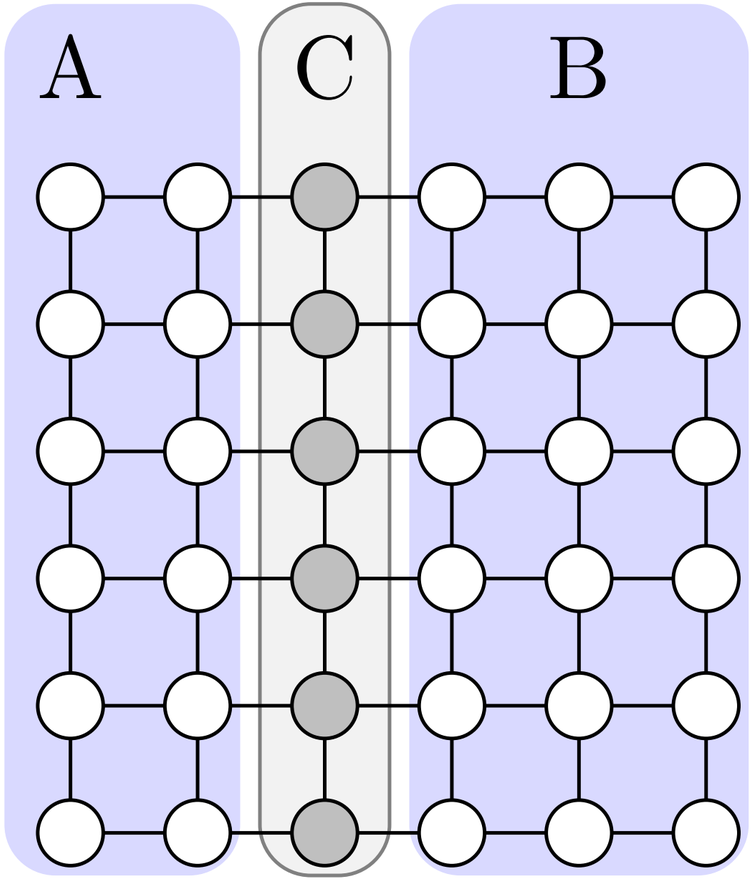
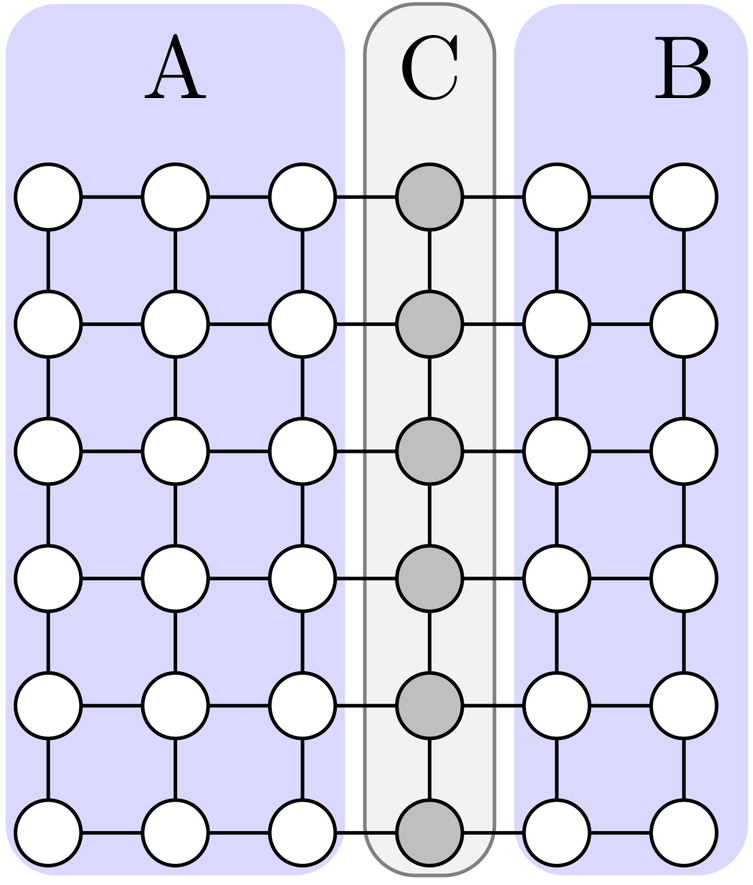
Reduce treewidth by conditioning


A
C
B


A
C
B

two examples of conditioning to reduce the treewidth of a 6×6 grid from 6 to 3

A $d_1 \times d_2$ grid has treewidth $\min(d_1, d_2)$

alternate condition set across each row/observation

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1. Introduction
    - Variable selection and model-X knockoffs
    - Knockoff sampling is difficult
2. Characterizing knockoff distributions
    - The characterization theorem
    - Connection to Markov chain Monte Carlo (MCMC)
3. Metropolized knockoff sampling (Metro)
    - How it works
    - Time complexity and graphical structure
4. **Good proposals inspired by the MCMC literature**
    - Covariance-guided proposal
    - Multiple-try Metropolis (MTM)
5. Simulation results
6. Discussion