



































































School of Computer Science An Example (cont.)  $P(A^{t}|A^{t-1}) \propto \exp\left\{\theta_{1}\sum_{ij} (A_{ij}^{t}A_{ij}^{t-1} + (1 - A_{ij}^{t})(1 - A_{ij}^{t-1})) + \theta_{2}\sum_{ij} A_{ij}^{t}A_{ji}^{t-1} + (1 - A_{ij}^{t})(1 - A_{ij}^{t-1})) + \theta_{2}\sum_{ij} A_{ij}^{t}A_{ij}^{t-1} + \frac{\sum_{ij} A_{ij}^{t}A_{ij}^{t-1}}{\sum_{ijk} A_{ij}^{t-1}A_{kj}^{t-1}} + \theta_{3}\frac{\sum_{ijk} A_{ij}^{t}A_{ik}^{t-1}A_{kj}^{t-1}}{\sum_{ijk} A_{ik}^{t-1}A_{kj}^{t-1}} + \theta_{4}\sum_{ij} A_{ij}^{t}\right\}$ IPAM talk. Nov 5, 2007



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Exercise Computer Science
Description
Data generated from the proposed htERGM
A<sup>o</sup> consists of 10 nodes and 14 edges
The total number of timesteps T = 50.
Intree approaches:

sERG: the static counterpart of the proposed algorithm
avg: averaged network from ground truth (approx. upper bounds the performance of any static network inference algorithm)
htERG: infer timestep-specific networks

F1 Score: the harmonic mean of sensitivity and specificity

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