Random CTLNs

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1 Project Summary

The goal of this project was to observe the effects of symmetry in random combinatorial linear-threshold networks (CTLNs). The simulation model was built in Python. A major step taken this summer was the completion of a small but complete program to generate averaged heatmaps of how network dynamics behaved across various probability parameters. Additionally, at the tail-end of the project, a more mathematically focused thrust to the problem was conceptualized and a more concrete vision of tackling the symmetry problem was realized.

2 Model and Code

2.1 Algorithm

The goal of this model is to generate random graphs with set parameters for symmetry and edge connection probability. This is done through the generation of a random square adjancency matrix of size n.