Computational Techniques in Latent Variable Network Models

November 30, 2018

1 Introduction

1. Our goals

2 Data

1. How we got the data

2. what is the data

3. How did we create the network

    (a) nodes= characters

    (b) edges are interactions, defined by their appearance in the book; weighted by number of interactions

3 Models

3.1 Latent Network Models

1. Introduction of network data

2. Community detection in networks

3. Latent variable models

4. Inclusion of observed covariates

3.2 Model Formulation (in our context)

$$logit P(Y_i j = 1) = ...$$

1. latent variables

4   Results

1. Analysis

2. Results

5   Conclusion

6   References

Appendix

A   Estimation Maximization Code

B   Markov Chain Monte Carlo Code

C   Figures Code