NME 2024

Network Modeling for Epidemics

1 Resources

Relevant literature

Websites

Other tools

Books

- ERGM theory

Lusher D, Koskinen J, Robins G, eds. *Exponential Random Graph Models for Social Networks: Theory, Methods, and Applications*. Cambridge University Press; 2012.

Papers

- Statnet packages: sna and ERGM

Butts, C. T. (2008). Social Network Analysis with sna. *Journal of Statistical Software*, *24*(6), 1–51. https://doi.org/10.18637/jss.v024.i06

Hunter, D. R., Handcock, M. S., Butts, C. T., Goodreau, S. M., & Morris, M. (2008). ergm: A Package to Fit, Simulate and Diagnose Exponential-Family Models for Networks. *Journal of Statistical Software*, *24*(3), 1–29. https://doi.org/10.18637/jss.v024.i03

Morris, M., Handcock, M. S., & Hunter, D. R. (2008). Specification of Exponential-Family Random Graph Models: Terms and Computational Aspects. *Journal of Statistical Software*, *24*(4), 1–24. https://doi.org/10.18637/jss.v024.i04

Krivitsky, P. N., Hunter, D. R., Morris, M., & Klumb, C. (2023). ergm 4: New Features for Analyzing Exponential-Family Random Graph Models. *Journal of Statistical Software*, *105*(6), 1–44.https://doi.org/10.18637/jss.v105.i06

Papers

- TERGMs

Pavel N. Krivitsky and Mark S. Handcock (2014). A Separable Model for Dynamic Networks. *Journal of the Royal Statistical Society, Series B*, 76(1): 29–46.

Pavel N. Krivitsky, Mark S. Handcock, and Martina Morris (2011). Adjusting for Network Size and Composition Effects in Exponential-Family Random Graph Models. 8(4): 319-339.

Papers

- Applications

Goodreau, S., et al. (2009). "Birds of a Feather, or Friend of a Friend? Using Statistical Network Analysis to Investigate Adolescent Social Networks." *Demography 46(1): 103–125.*

Web Resources

- Statnet training workshops (https://statnet.org/workshops/)

Introduction to SNA in R

ERGMs

TERGMs

Web Resources

- Online ebooks for social network analysis in R

Rawlings, Craig M., Jeffrey A. Smith, James Moody, and Daniel A. McFarland 2023. *Network Analysis: Integrating Social Network Theory, Method, and Application with R*. New York: Cambridge University Press.

https://inarwhal.github.io/NetworkAnalysisR-book/

Everton , Sean, Dan Cunningham and Chris Callaghan (*CORE Lab). R for Social Network Analysis*

https://cllghn.github.io/r4sna/