The Life and Death of Social Networks: A network formation model for opinion dynamics

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1 Theory

1.1 Network Formation

1.1.1 Social Networks

Here the presentation of the important characteristics of social networks should be included and why they come about. These include the high transitivity, clustering, communities, and exponential degree distributions.

1.1.2 Candidate Models

A special focus on the Herding Friends (animal model) as well as the how random are random friends. Other papers could also be good here.

1.1.3 The problems with current models

Calibration with data and how to test models. Models with fixed networks won't cut it.

1.2 Social Influence

Including some of the basic literature (Axelrod)

1.2.1 Shaping opinions

Introduce the evidence from psychology and computational literature to show why the assumptions in the model make sense

1.2.2 Models of Social Influence

Report the evolution of models and where to place this model in all of the literature

1.3 A network formation model for social influence

Explain the importance of making both a network formation and opinion dynamics model in one go

2 Methods

2.1 Model specification

Explain the different parameters of the model

2.2 Model fitting

explain how the model was calibrated (Bayesian Hyperparameter Optimization)

3 Model investigation

Get familiar with the different parameters and their interpretations

3.1 The effect of randomness

How randomness affects the distribution of opinions, as well as the network

3.2 The effect of the boundary threshold

How the boundary threshold affects the distribution of opinions, as well as the network

3.3 The effect of homophily

How homophily affects the distribution of opinions, as well as the network

3.4 Important interactions

Point to some of the important interactions (possible Golden zones)

4 Results

4.1 Network generation

4.2 Opinion generation

5 Discussion

6 Conclusion