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Communities Found by Humans

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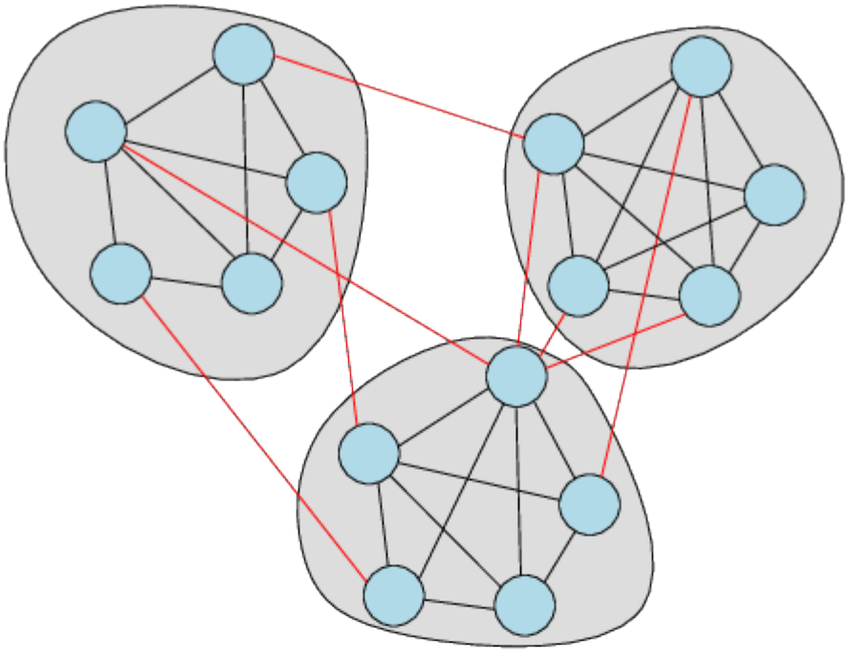
Communities Found by Humans

- What would a human do with their own data?
- Would the results be the same or different?
- Study designed around this question

Alexandra Lee and Daniel Archambault. Communities Found by Users -- not Algorithms: Comparing Human and Algorithmically Generated Communities. ACM Conference on Human Factors in Information Systems (Note, ACM CHI 16), 2396-2400, 2016.

What are communities?



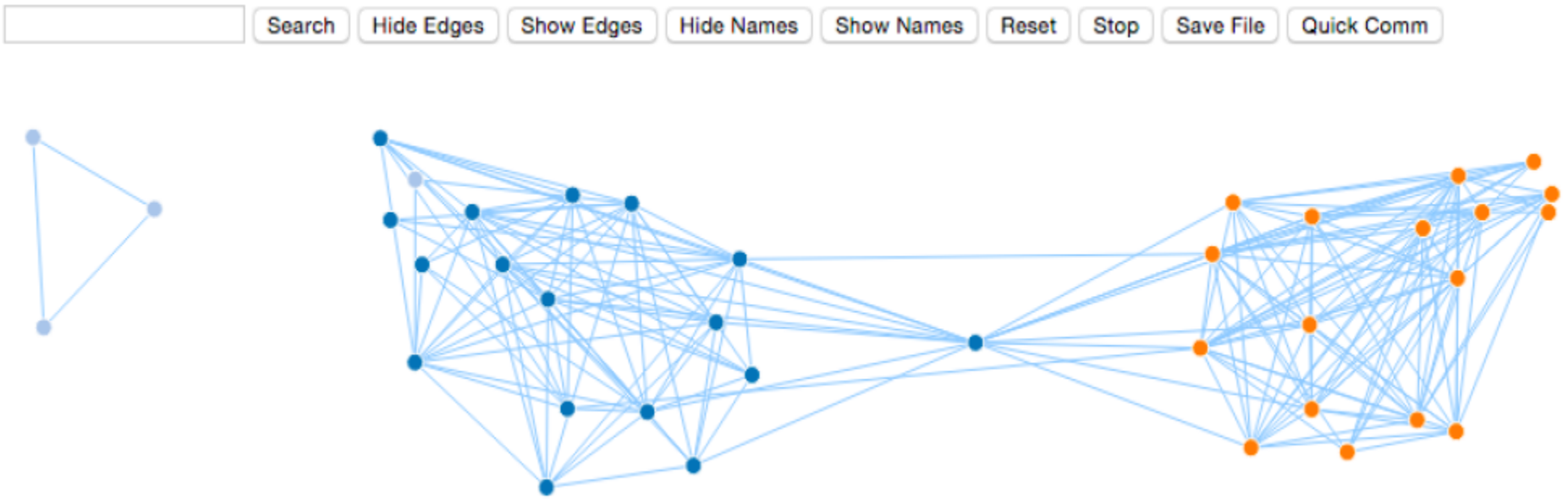
- Highly connected components have meaning in social networks
- Automatic algorithms to divide these components

Related Work

- Lancichinetti and Fortunato 2009
  - Compared many community finding algorithms based on generated benchmark data sets.
  - Infomap algorithm performed the best

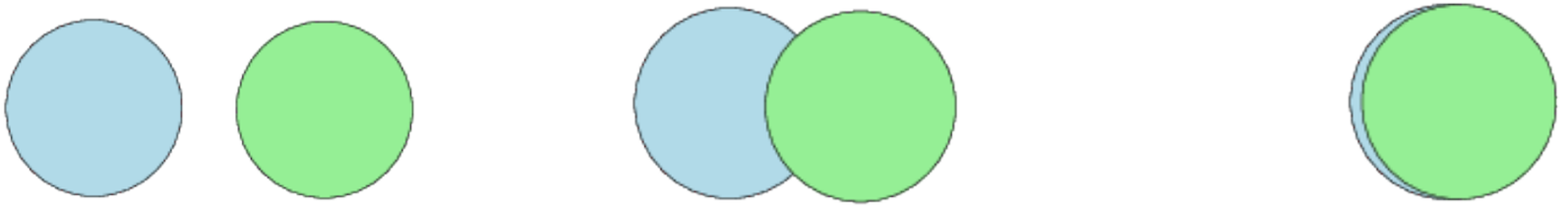
- What would a human do looking at their own data?

Procedure



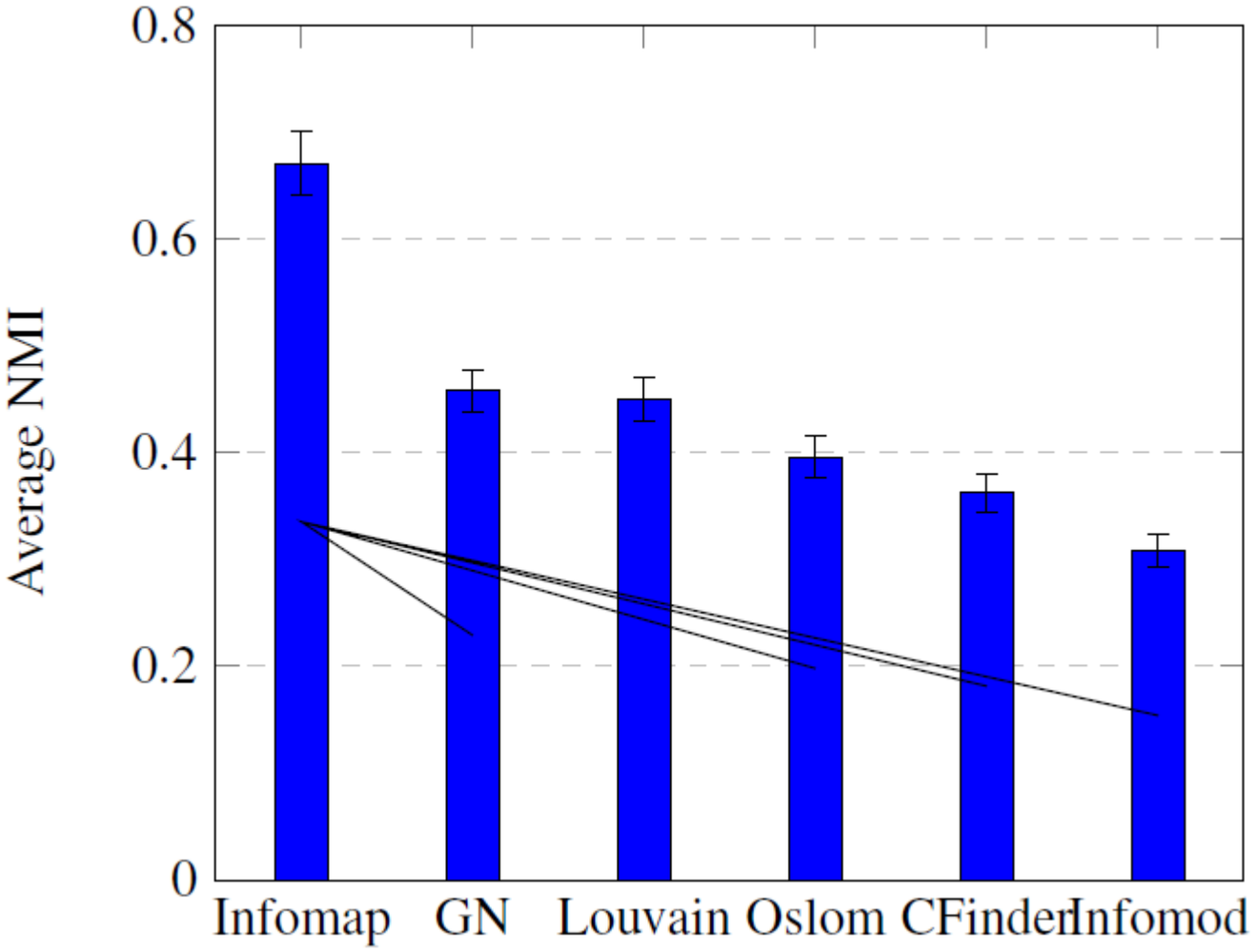
- Present participant with their own Facebook graph
  - nodes have labels indicating the actual people
- Participant lasso selects what they think are communities
  - overlap permitted in the selection

Comparing Input



- Normalised Mutual Information (NMI) is used to evaluate the similarity between two sets of communities.
- Metric measure degree of match between the nodes in each community

Results



- Infomap produces significantly closer communities when compared to user annotations

Conclusions

- Infomap produces significantly closer communities when compared to user annotations
- Most community finding algorithms break graph up too much
- Results seem quite similar to metric experiments