The Impact of Projection and Backboning on Network Topologies

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Everything is Bipartite...
...but We Like Unipartite
How do you do it?

Projection + Backboning
The Problem

Projection + Backboning has a huge effect on the shape of the network and its subsequent analysis and should be systematically investigated.
Projection Techniques

\[ W_{u,v} = |N_u \cap N_v| \]
Projection Techniques

\[ W_{u,v} = \sum_{z \in N_u \cap N_v} \frac{1}{k_z} \]
Projection Techniques

\[ W_{u,v} = \sum_{z \in N_u \cap N_v} \frac{1}{k_u k_z} \]
Projection Techniques

\[ W_{u,v} = \pi A_{u,v} \]
Backboning Techniques

Threshold

Discarded
Backboning Techniques

\[
\frac{1+2+3+4+1+2}{6} \approx 2.16
\]
Backboning Techniques

1.75 + 3.25 / 2
= 2.5

1+2+1+3 / 4
~1.75

4+4+3+2 / 4
~3.25
The Data

Which news outlets are similar?

Is there centralization?

Are there communities of news?
Can we Find Clusters?
Centralization
Conclusions

- Projection + Backboning has a huge impact
- There are clusters of strategies
- Beware not to impose a result by construction
Thanks

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