

# Discovering Social Circles

## Topological Data Analysis-Project I

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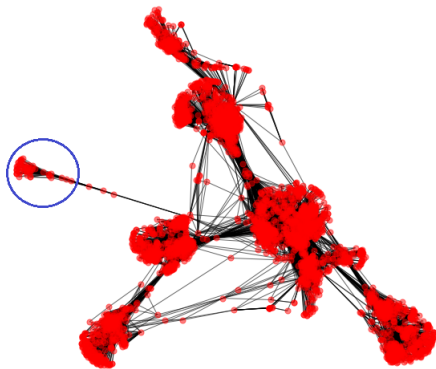
Department of Mathematical Sciences,  
University of Delaware.

8 April 2019



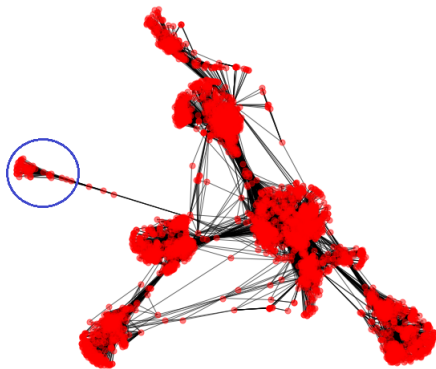
**Dataset:** ego-Facebook under Social Networks (Stanford Large Network Dataset Collection).

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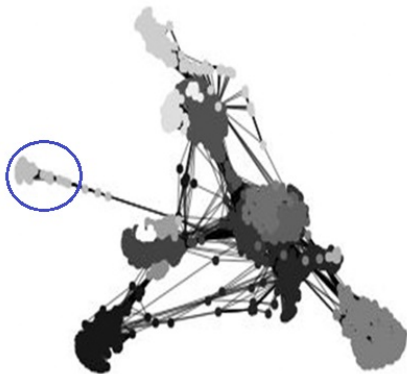


*Facebook ego-network*

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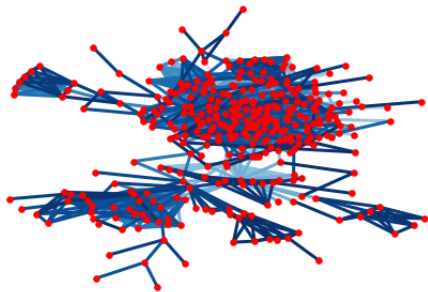
*Facebook ego-network*



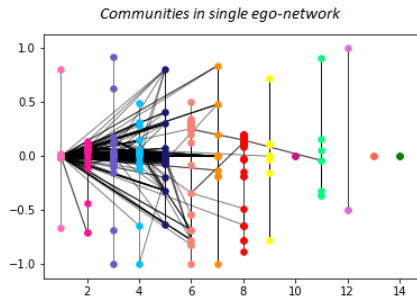
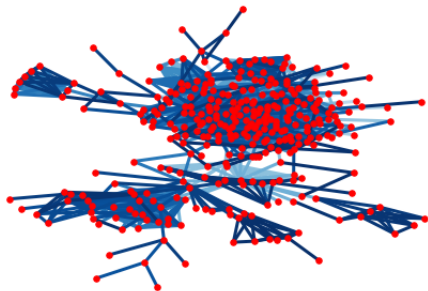
*Detected communities in Facebook ego-network*

# Exploratory analysis with a single ego-network

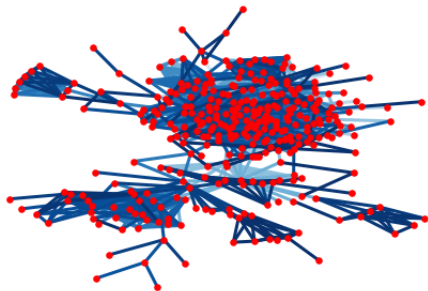
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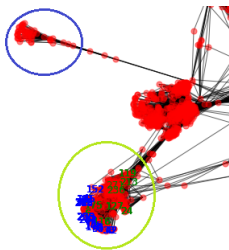
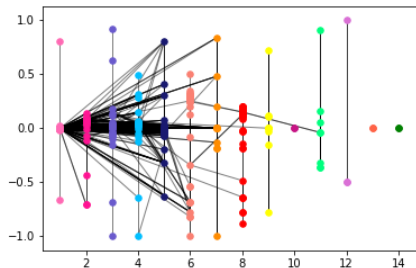
# Exploratory analysis with a single ego-network



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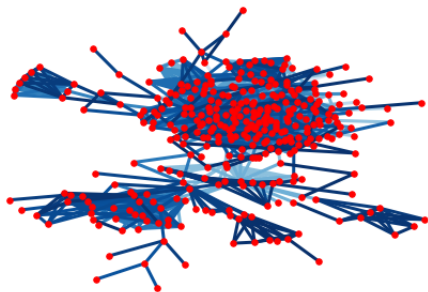


*Communities in single ego-network*

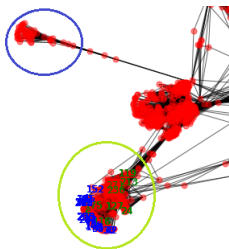
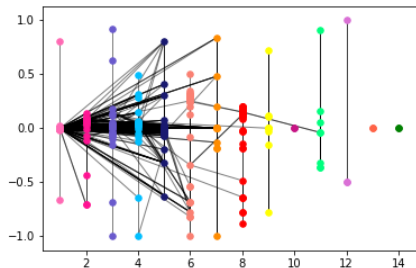




# Exploratory analysis with a single ego-network



*Communities in single ego-network*



Conclusion:

- Ego does not identify with unique features.
- Ego has alters in a densely clustered hub with minimal connections within the hub.



[Louvain-community Detection](https://github.com/taynaud/python-louvain/)

<https://github.com/taynaud/python-louvain/>



[Social circles: Facebook](http://snap.stanford.edu/data/ego-Facebook.html)

<http://snap.stanford.edu/data/ego-Facebook.html>



[J. McAuley and J. Leskovec.](#)

Learning to Discover Social Circles in Ego Networks. NIPS, 2012.

**THANK YOU!**