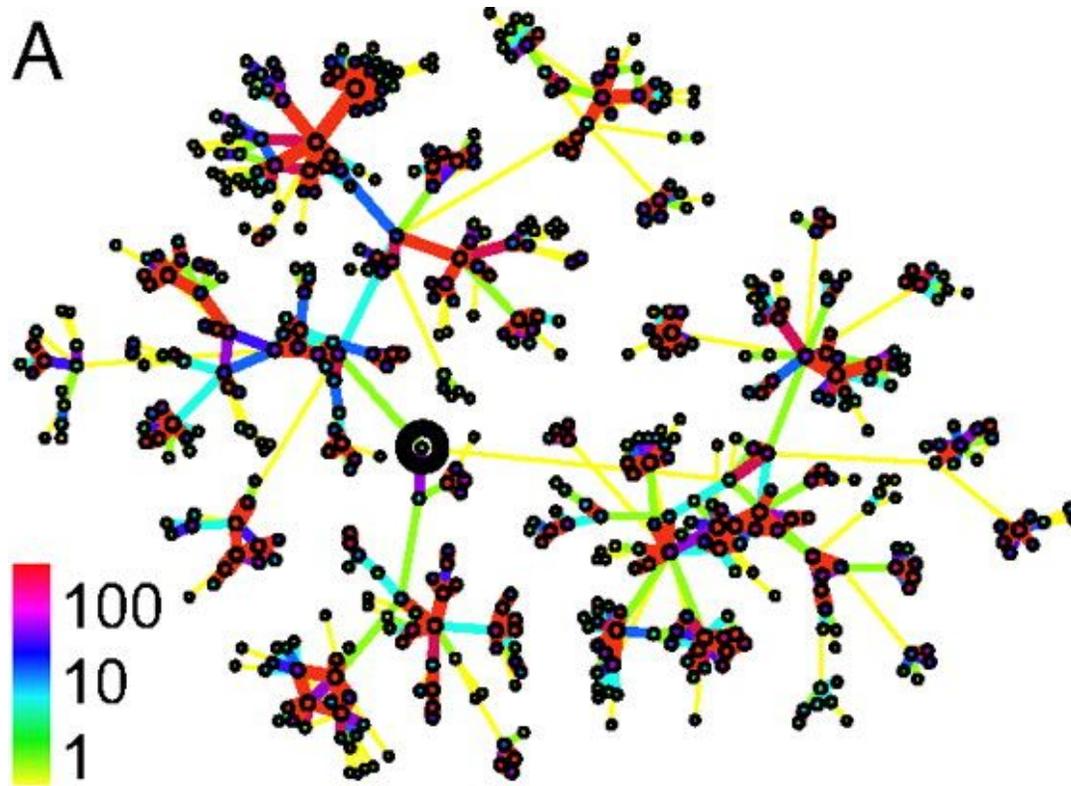


Do more people say that they found a new job opportunity through a close friend or through an acquaintance?

# Friendship graph

A



Onnela, J-P., Jari Saramäki, Jorkki Hyvönen, György Szabó, David Lazer, Kimmo Kaski, János Kertész, and A-L. Barabási. "Structure and tie strengths in mobile communication networks." *Proceedings of the national academy of sciences* 104, no. 18 (2007): 7332-7336.

<https://www.pnas.org/doi/10.1073/pnas.0610245104>

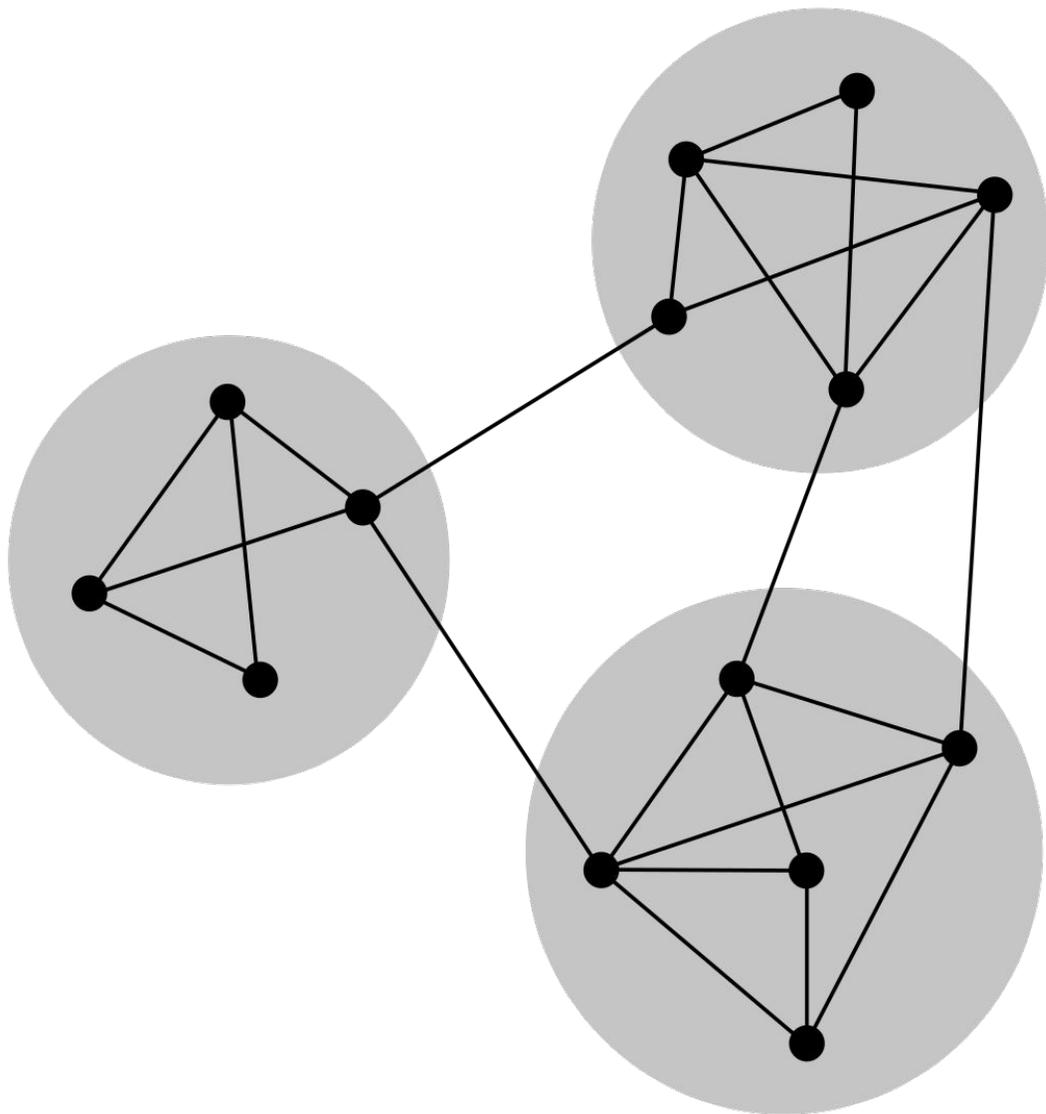
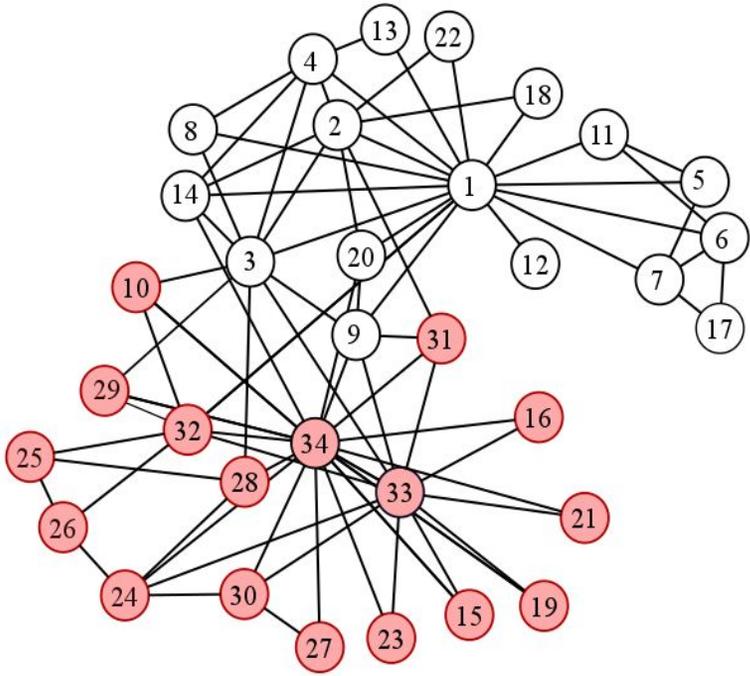


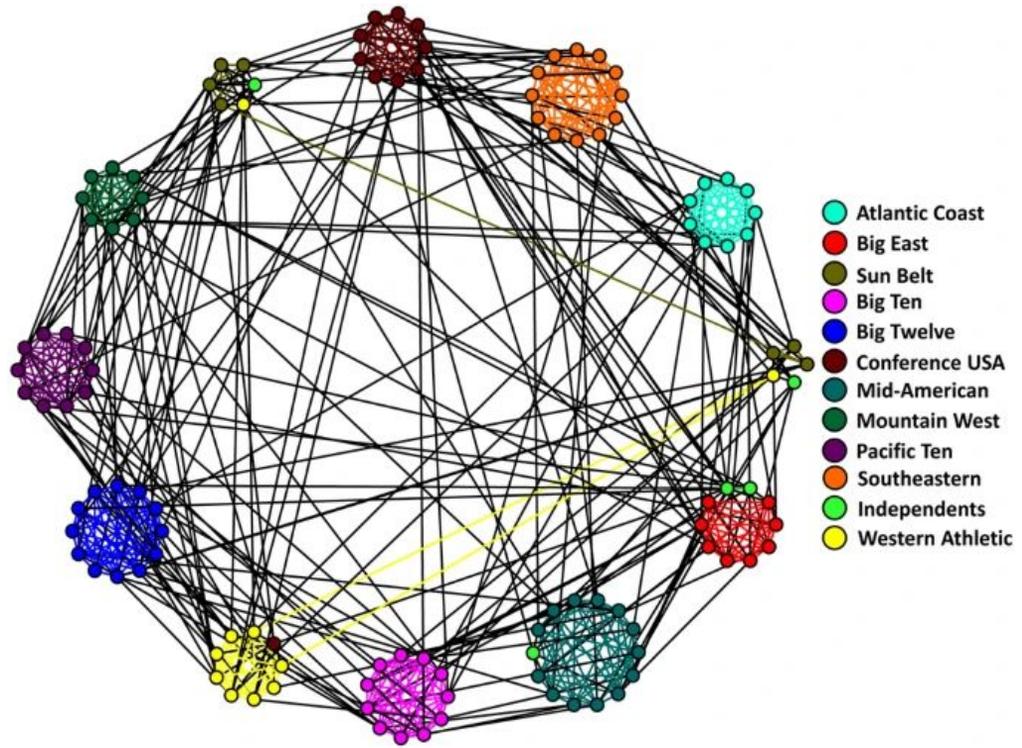
Image from: [https://en.wikipedia.org/wiki/Community\\_structure](https://en.wikipedia.org/wiki/Community_structure)



## Zachary's Karate Club

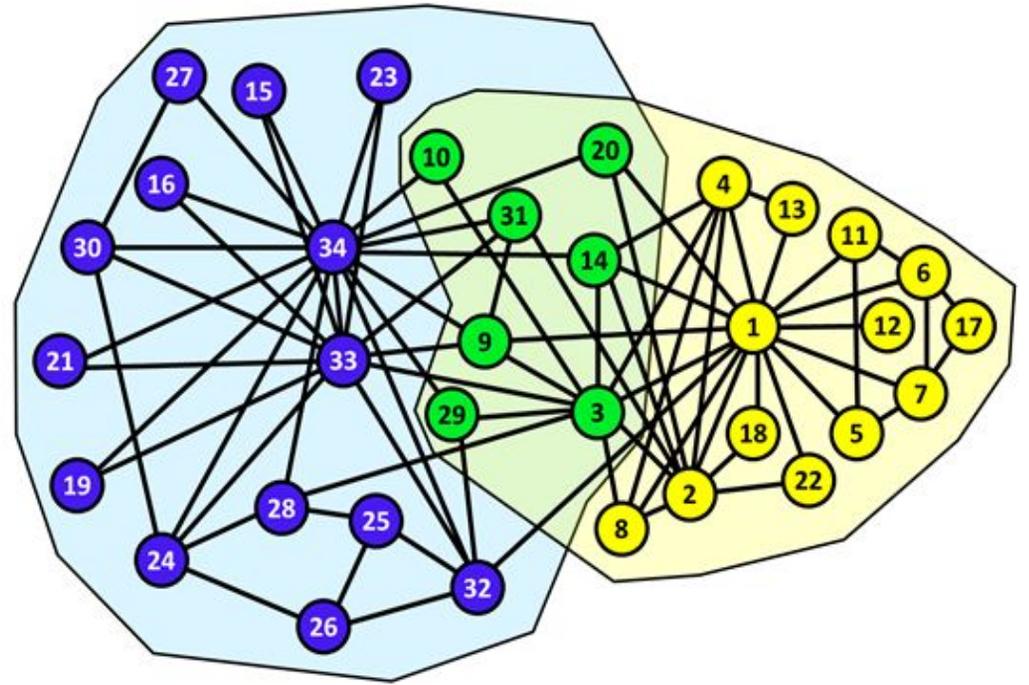
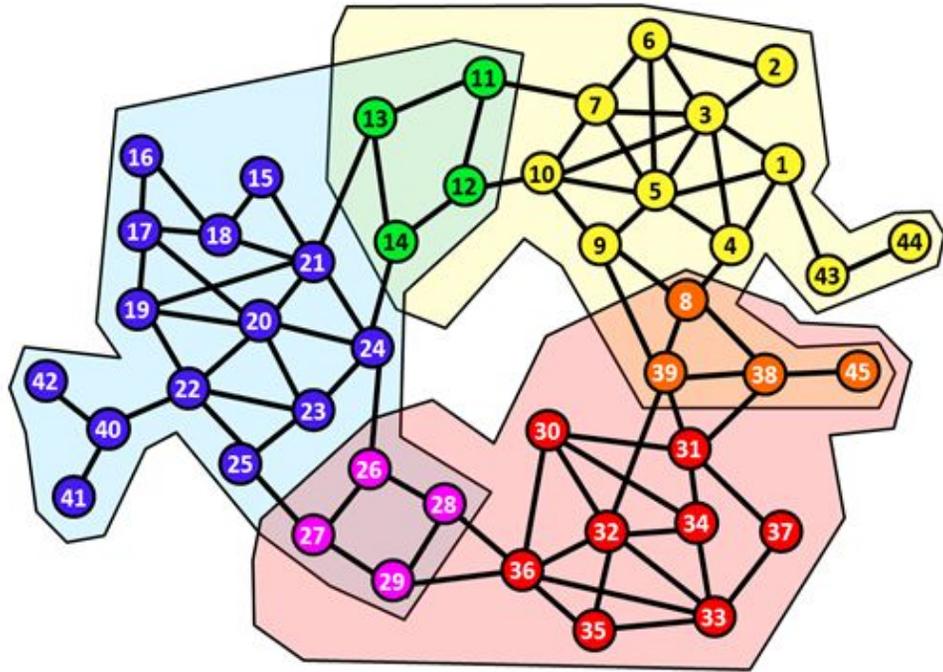
Image from:

[https://commons.wikimedia.org/wiki/File:Zachary%27s\\_karate\\_club.png](https://commons.wikimedia.org/wiki/File:Zachary%27s_karate_club.png)



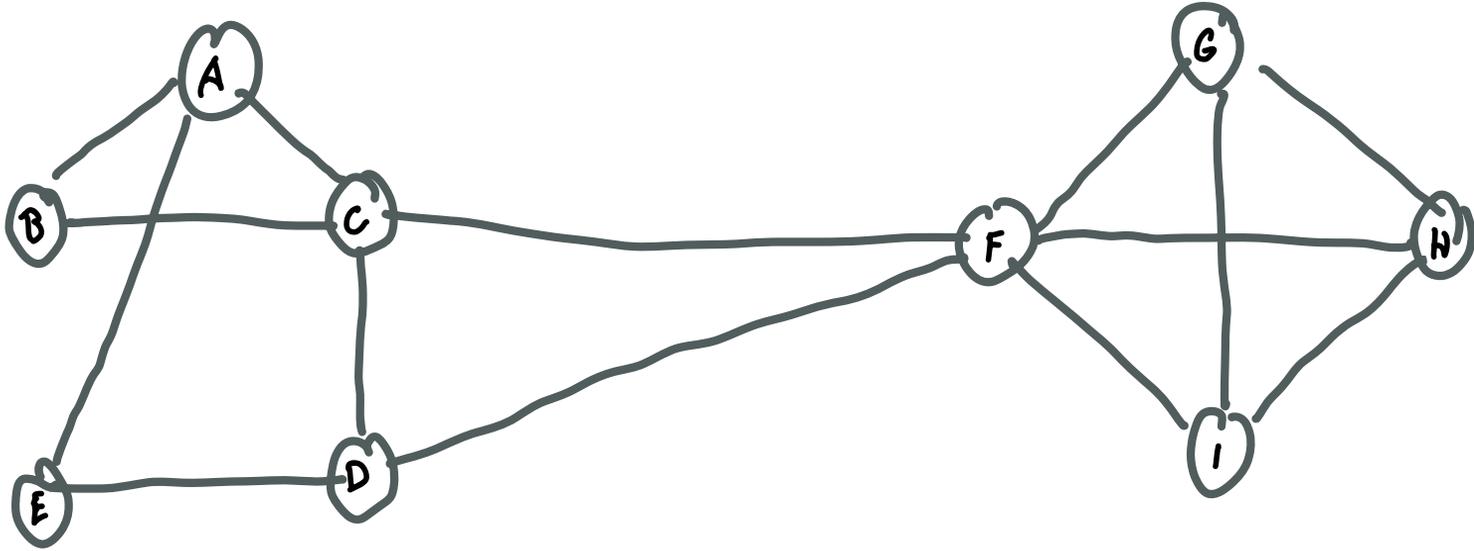
Lu, Zhenqi, Johan Wahlström, and Arye Nehorai. "Community detection in complex networks via clique conductance." *Scientific reports* 8, no. 1 (2018): 1-16.

<https://www.nature.com/articles/s41598-018-23932-z>

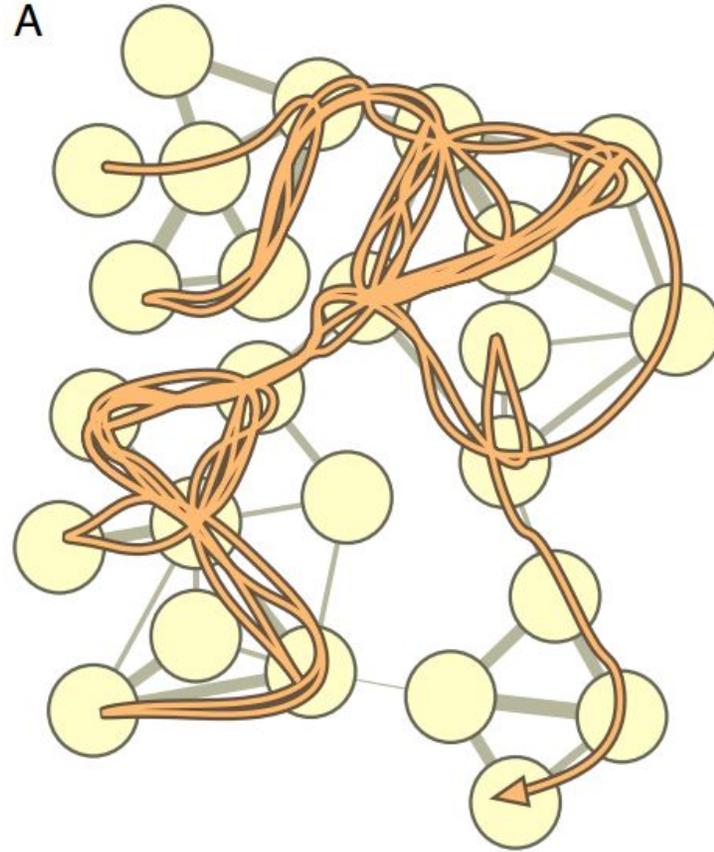


<https://bigdata.oden.utexas.edu/project/graph-clustering/>

# Girvan-Newman



# Infomap

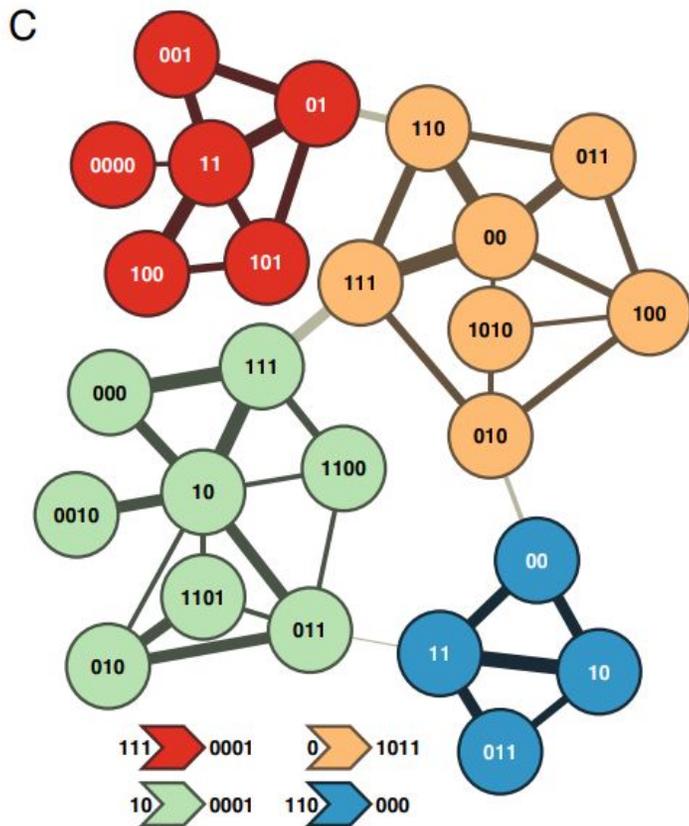


Rosvall, Martin, and Carl T. Bergstrom.  
"Maps of random walks on complex  
networks reveal community structure."  
*Proceedings of the national academy of  
sciences* 105, no. 4 (2008): 1118-1123.

<https://www.mapequation.org/assets/publications/RosvallBergstromPNAS2008Full.pdf>



# Infomap



111 0000 11 01 101 100 101 01 0001 0 110 011 00 110 00 111 1011 10  
 111 000 10 111 000 111 10 011 10 000 111 10 111 10 0010 10 011 010  
 011 10 000 111 0001 0 111 010 100 011 00 111 00 011 00 111 00 111  
 110 111 110 1011 111 01 101 01 0001 0 110 111 00 011 110 111 1011  
 10 111 000 10 000 111 0001 0 111 010 1010 010 1011 110 00 10 011

