

# CMSC 474, Introduction to Game Theory

## 21. Social Networks

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# Topics Covered

- 1. Networks come in a variety of forms: even social networks can mean online social networks, family and friends, social-contact networks etc.
- 2. Section 16.4 (Bayes' Rule in Herding) from Easley-Kleinberg:  
<http://www.cs.cornell.edu/home/kleinber/networks-book/networks-book-ch16.pdf>
- 3. Early web-search, and how Kleinberg's hubs-and-authorities made link structure a fundamental ingredient:  
[http://en.wikipedia.org/wiki/HITS\\_algorithm](http://en.wikipedia.org/wiki/HITS_algorithm) (a brief discussion without going into the details of the algorithm)
- 4. Structural balance theory: Sections 5.1 and 5.2 from Easley-Kleinberg:  
<http://www.cs.cornell.edu/home/kleinber/networks-book/networks-book-ch05.pdf>, as well as a very quick discussion of the dynamics of network sentiment from  
<http://www.pnas.org/content/early/2010/12/27/1013213108.full.pdf+html>

# Topics Covered

- 5. Brief discussion of maximizing influence:  
<http://www.cs.cornell.edu/home/kleinber/kdd03-inf.pdf>
- 6. The network effect, protests, the Mac commercial from Super Bowl 1984: brief discussion of Section 19.6 from <http://www.cs.cornell.edu/home/kleinber/networks-book/networks-book.pdf>
- 7. General discussion of how the social sciences are becoming "hard sciences" due to the availability of data.