

E6885 Network Science: *Homework #2*

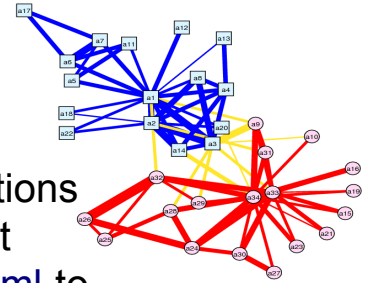
Ching-Yung Lin, Dept. of Electrical Engineering, Columbia University

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Homework #2 (Due 10/14/2013)

- Write a program to visualize the Karate Club Data network in HW#1, using the directed-force algorithm.
 - Show the final converged positions in the SVG format. View it from your browser. All the edges are the same color. All the nodes are circles.
 - (Bonus: animation) save the individual steps from the random original positions to final converged positions as individual files. (1) Use the HTML/Javascript template at <http://www.ee.columbia.edu/~cylin/course/netsci/vistemplate.html> to show them as an animation, or (2) Use the animation parameters of SVG to show as animation (not all browsers support SVG's native animations).



- Gather Real Data for Visualization:
 - Choose 30 companies by your own on NYSE or Nasdaq. Get the daily closing historical stock prices of these 30 companies from 1/1/2013 to 9/30/2013 from Yahoo! Finance. To get the historical prices, enter the symbol. Click on “Historical Prices”. Choose the range. Download to Spreadsheet. You probably need to do it one company at a time.
 - Based on this set of data, calculate the ‘relationships’ of these companies based on the similarity of the daily stock close price changes. (In other words, finding the correlation of the 2 time-series signal of each pair.) Choose a threshold to make the edges binary (with or without edge between pairs). Visualize them.

