Week 2 Part 1 - Network Analysis: Graph Theory, Definitions [05-Jun 11-Jun

Week Two - Part 1 - Overview

This week, you'll learn about some basic graph theory. In your assignment, you'll practice using an adjacency matrix, and calculating graph diameter.

Week Two - Part 1 - Core Reading

Please read:

- *Social Network Analysis for Startups*, Chapter 2

For students who want to learn more about graph databases, you can freely download the O'Reilly book Graph Databases.

Week Two - Part 1 Discussion The Future of Work

Please read this essay:

Geoff Colvin (2014): In the future, will there be any work left for people to do?

In this essay (and his more recent book, Humans are Underrated) Colvin talks about how “InfoTech” like text mining and analysis is disrupting the world of work. An example cited in the book is that “e-discovery would enable one lawyer to do the work of 500 or more…”

Can you think of another example where text mining or network analysis might either eliminate jobs, allow one person to do the work of many, or perform new work that was not previously possible?

Please make your initial post by Saturday 6/8, and respond to at least one class mate's post by Monday 6/10.

Week 2 Part 1 Assignment Graph Visualization

Attached Files: Assignment3.pdf (39.173 KB)

Graph Visualization

This week's assignment is to:

1. Load a graph database of your choosing from a text file or other source. If you take a large network dataset from the web (such as from Stanford Large Network Dataset Collection), please feel free at this point to load just a small subset of the nodes and edges.
2. Create basic analysis on the graph, including the graph's diameter, and at least one other metric of your choosing. You may either code the functions by hand (to build your intuition and insight), or use functions in an existing package.
3. Use a visualization tool of your choice to display information. Use NetworkX directly or pyviz or another tool. You can try Gephi too if you like or Neo4j but you should get used to use the Python toolset
4. Please record a short video (~ 5 minutes), and submit a link to the video in advance of our meet-up. You wll be showing your assignment in the meet-up but it always useful to have a recording.

This is the first assignment to be done in a Team. Put your notebook in GitHub and submit your assignment link by end of day on Sunday.