Complex Networks

Fall 2015

Instructor
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Structure of the module: five lectures, with related homeworks.

Goal: **to explore network analysis via the agnt-based model lens**.

Suggested preliminary readings and activities:

1. compare the contents of:
   i) http://en.wikipedia.org/wiki/Social_network_(disambiguation);
   ii) http://en.wikipedia.org/wiki/Social_networks;
   iii) http://en.wikipedia.org/wiki/Social_network_analysis;
   iv) http://en.wikipedia.org/wiki/Complex_network;
2. familiarize with the NetLogo NW extension, at https://github.com/NetLogo/NW-Extension;
3. familiarize with NetworkX library: http://networkx.github.io;
4. if you missed it, study the online material of my course on **Complexity Economics and Agent-Based Models**.

Program

1st lecture - Introductory notes. Preliminary steps with NetLogo and NWPython. A fist look to SLAPP/production (reference: see 4. above).
Homework.
2nd lecture - A deep look to SLAPP/production. Experiment with SLAPP/production with nodes/factories creation or deletion.
Homework.
3rd lecture – Using NetworkX library (in Python).
Homework.
4th lecture – Putting agents into the networks.
Homework.
5th lecture – From agent-based simulation to network analisys (and return).
Homework.

Schedule
Mon. Nov. 30th, 11am-1pm; Tue. Dec. 1st, 11am-1pm; Wed. Dec. 2nd, 11am-1pm; Thu. Dec. 3rd, 11am-1pm; Fri. Dec. 4th, 11am-1pm.