Social Network Analysis for Computer Scientists

F.W. Takes

Leiden University, The Netherlands

Lecture 0 — Course organization
About SNACS

- Social Network Analysis and other networks...
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  - communication networks, citation networks, corporate networks, protein interaction networks, information networks, webgraphs, ...
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- Social Network Analysis (SNA)
  and other networks . . .
  - communication networks, citation networks, corporate networks,
    protein interaction networks, information networks, webgraphs, . . .

- “for Computer Scientists” (CS)
  but (the application of) SNA is also useful/interesting for . . .
About SNACS

- Social Network Analysis (SNA) and other networks...
  - communication networks, citation networks, corporate networks, protein interaction networks, information networks, webgraphs, ...
- “for Computer Scientists” (CS) but (the application of) SNA is also useful/interesting for...
  - social science, economics, biology, physics, mathematics, ...
Figure: Yeast protein interaction network with 1,458 nodes and 1,948 edges
Figure: Sample of online social network with 1,876 nodes and 8,070 edges.
Course information

- Lectures: Fridays, 11:00 to 12:45, Snellius room B02
- Lab sessions: Fridays, 9:00 to 10:45, Snellius room 302/304 (not every week, and sometimes also in B02)
- Prerequisites: Algorithms, Data Structures and Data Mining
- Course website: http://liacs.leidenuniv.nl/~takesfw/SNACS
- Mandatory registration: https://is.gd/snacs2017
Course “personnel”

- **Lecturer:** dr. Frank Takes
  - f.w.takes@liacs.leidenuniv.nl (daily)
  - Snellius room 157b (Thursday and Friday)

- **Student assistant:** Hanjo Boekhout BSc
  - h.d.boekhout@umail.leidenuniv.nl

- **Student assistant:** Jesper van Engelen BSc
  - j.e.van.engelen@umail.leidenuniv.nl
Course format

- 13 weeks: presentations by lecturer and students
- No book (we use recent CS papers and perhaps some free textbooks)
- No exam
- > 4 P’s
  1. Presentation
  2. Participation (including Presence)
  3. Programming
  4. Paper (with some Peer review and Code review)
Examination

- Final grade is based on 3 grades for:
  - Homework assignment 1 (individual) 20%
  - Homework assignment 2 (individual) 20%
  - Presentation and Paper (team) 60%
- All 3 grades have to be $> 5$
- Grades are rounded to nearest element of $\{1, 2, 3, 4, 5, 6, 6.5, 7, 7.5, 8, 8.5, 9, 9.5, 10\}$
- Rounding based on Participation
- 6 ECTS
Course context Leiden

- Bachelor courses CS
  - Algorithms
  - Complexity
  - Data Mining
  - Data Structures

And perhaps your... Research Project (18 ECTS) or Master Project (42 ECTS)?
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- Master courses CS
  - Advances in Data Mining
  - Seminar Distributed Data Mining
  - Seminar Combinatorial Algorithms
  - Complex Networks (faculty course)

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- Deadlines are hard and already set
- Individual assignments must be made alone
- Team work must be balanced
- Ask questions, many if you have to
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- Plagiarism = instant removal from course
Before we start . . .

- Relatively new course
- Provide feedback
- Correct errors in slides
- Discussion welcome
- Have some fun.