Social Network Analysis for Computer Scientists

Frank Takes

LIACS, Leiden University
https://liacs.leidenuniv.nl/~takesfw/SNACS

Lecture 0 — Course information
About this course

- Social Network Analysis
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- **Social Network Analysis**: understanding data from the network perspective, studying interactions in social, economic, organizational, technological and other real-world networks.
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- **Social Network Analysis**: understanding data from the network perspective, studying interactions in social, economic, organizational, technological and other real-world networks.

- **for Computer Scientists**: focus on methods, algorithms, data structures, mining descriptive insights and developing predictive techniques to understand real social network data.
Figure: Sample of online social network.
Figure: Yeast protein interaction network.
Figure: Sweden’s economic network of interlocked corporations.
Figure: Three models of **epidemic spread** in human contact networks.
Course information

- Lectures: Fridays, 11:00 to 12:45, Snellius room 174
- Lab sessions: Fridays, 9:00 to 10:45, Snellius room 306/308
- Prerequisites: Algorithms, Data Structures and Data Mining
- Course website: https://liacs.leidenuniv.nl/~takesfw/SNACS
- Mandatory registration: https://is.gd/snacs2018
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)
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 $> 5$

Final grades are rounded to nearest element in
\{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 team

- Lecturer: dr. Frank Takes  
  f.w.takes@liacs.leidenuniv.nl, room 157b

- Assistant lecturer: Anna Latour MSc  
  a.l.d.latour@liacs.leidenuniv.nl, room 123

- Course assistant: Antonio Barata MSc  
  a.p.pereira.barata@liacs.leidenuniv.nl, room 150

- Student assistant: Hanjo Boekhout BSc  
  h.d.boekhout@umail.leidenuniv.nl
Need help?

snacs@liacs.leidenuniv.nl
Course context Leiden

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

- Deadlines and assignment (retake) deadlines are hard and already set
- Individual assignments must be made alone
- Team work should be balanced
- Ask questions, many if you have to
Before we start . . .

- Deadlines and assignment (retake) deadlines are hard and already set
- Individual assignments must be made alone
- Team work should be balanced
- Ask questions, many if you have to
- Plagiarism = instant removal from course
  - You are expected to know the regulations. Ask if you are uncertain.
Before we start . . .

- Relatively new course (since 2014)
- Provide feedback
- Correct errors in slides
- Discussion welcome
- Have some fun.