

Social Network Analysis for Computer Scientists

Frank Takes

LIACS, Leiden University

<https://liacs.leidenuniv.nl/~takesfw/SNACS>

Lecture 0 — Course information

Note to self: PRESS RECORD BUTTON

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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- **for Computer Scientists:** focus on methods, algorithms, data structures, mining descriptive insights and developing predictive techniques to understand real social network data.

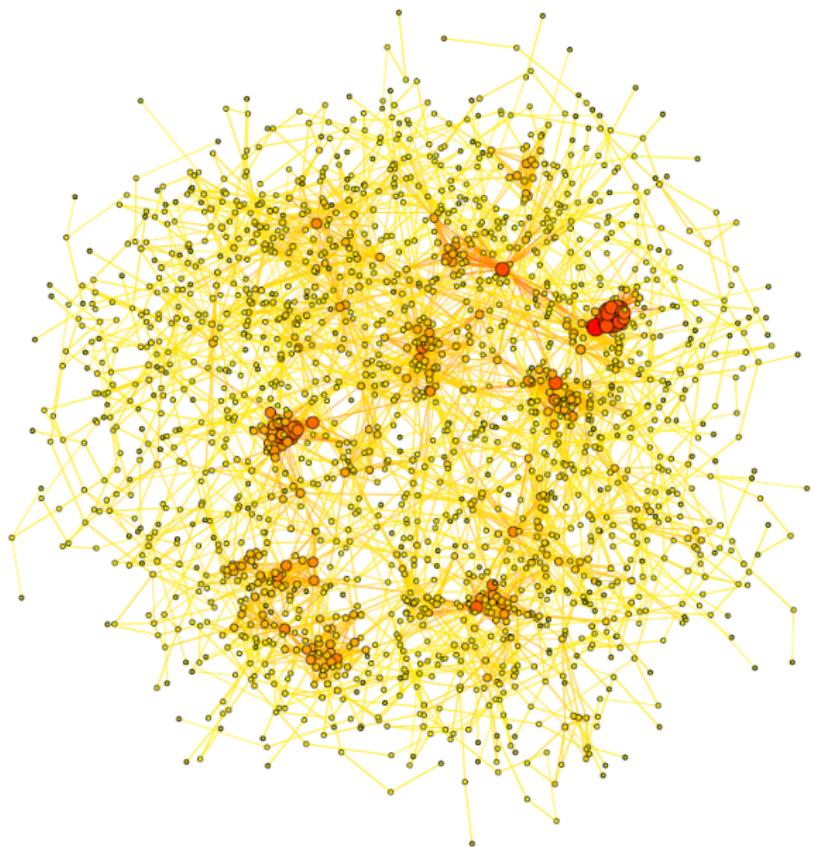


Figure: Sample of an online social network.

ARPA NETWORK, LOGICAL MAP, SEPTEMBER 1973

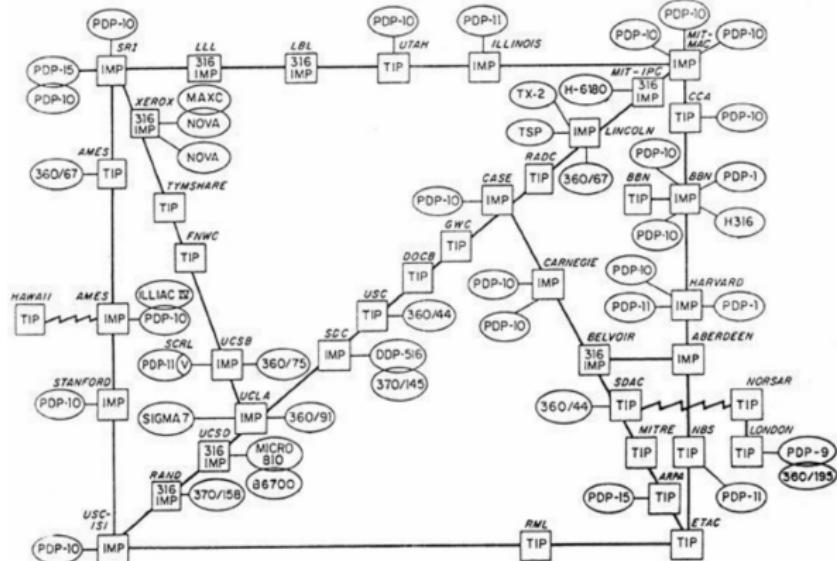


Figure: Network of the internet.



Figure: Protein interaction network.

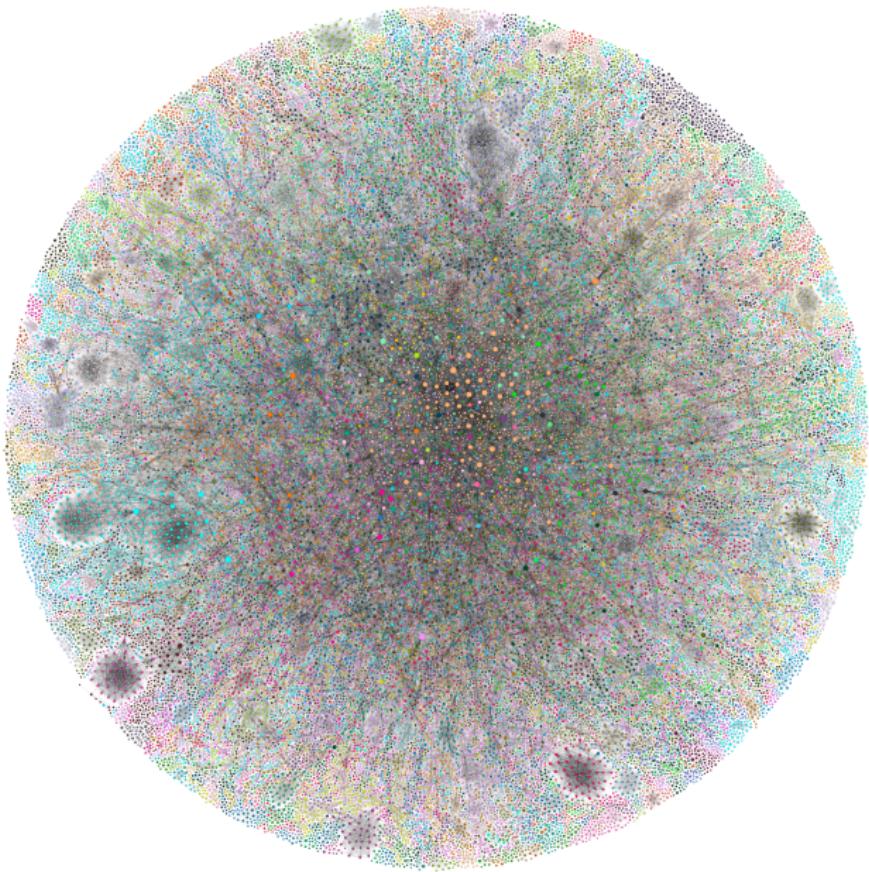


Figure: Sweden's **economic network** of interlocked corporations.



Course information

- Lectures: Fridays, 11:15 to 13:00, Gorlaeus Havingenzaal
- Lab sessions: Fridays, 9:15 to 11:00, Snellius 302/304 etc.
- Prerequisites: CS bachelor with courses like algorithms, data structures and data mining
- Course website:
<https://liacs.leidenuniv.nl/~takesfw/SNACS>
- Mandatory registration via uSis/Brightspace; course name 2122-S1 Social Network Analysis for Com... or:
<https://brightspace.universiteitleiden.nl/d2l/home/91532>

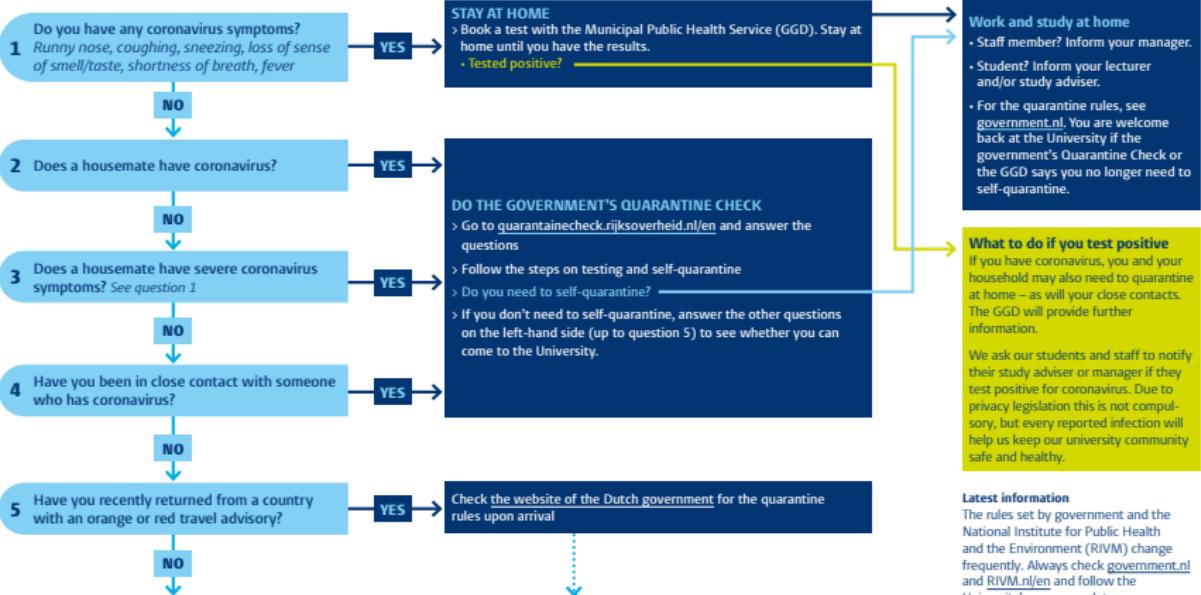
Course format

- 13 weeks: presentations by lecturer in first half of semester and students teams in second half of semester
- No book (we use recent 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)
- On-site course with online “backup”
 - In good health? attend physically / on-site
 - Not in good health or other valid* reason: attend remotely / online
- For lab sessions we use the Snellius computer rooms; you can also use your laptop and occasional remote access through SSH

Can I come to the University?

Answer these five questions before you come to the University to teach, learn, study or work.

Corona Check



Latest information

The rules set by government and the National Institute for Public Health and the Environment (RIVM) change frequently. Always check [government.nl](#) and [RIVM.nl/en](#) and follow the University's corona updates.



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Interaction

- Lectures and live Q&A are streamed and recorded for short-term rewatching
- No remote Q&A during lecture; utilize the lab sessions or Brightspace discussion board
- Remote assistance during lab sessions by appointment only (send an e-mail)
- Discussion board on Brightspace for questions
- Individual questions and issues: snacs@liacs.leidenuniv.nl

Examination

- Final grade is based on 3 grades for:
 - Homework assignment 1 (individual) 20%
 - Homework assignment 2 (individual) 20%
 - Project (presentation and paper, in teams) 60%
- All 3 grades have to be ≥ 5.5
- Failed assignments can be retaken with one extra assignment (one failed assignment: maximum grade 8.0, two failed: maximum 6.0)
- 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
- Assistants:
 - Hanjo Boekhout MSc (head)
h.d.boekhout@liacs.leidenuniv.nl, room 126
 - Yali Wang MSc
y.wang@liacs.leidenuniv.nl, room 167
 - Bart de Zoete BSc
b.de.zoete@umail.leidenuniv.nl

Course context Leiden

- Bachelor courses CS
 - Algorithms
 - Complexity
 - Data mining
 - Data structures

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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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 - Complex networks (faculty course)
- And perhaps your Master thesis 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

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- 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.
- Please ask the course team if you are uncertain about something



Before we start . . .

- Course is running since 2014
- Feel free to provide feedback,
- Or correct errors in slides.
- Discussion welcome!
- Have some fun.