

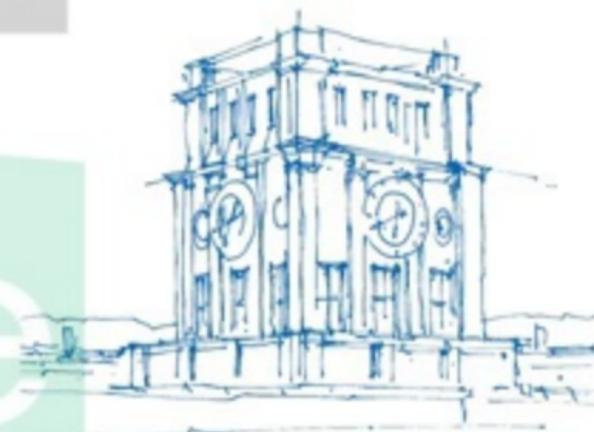
Einführung in Methoden komplexer Systeme

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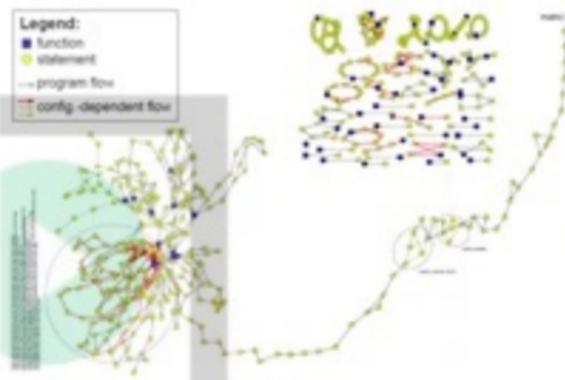
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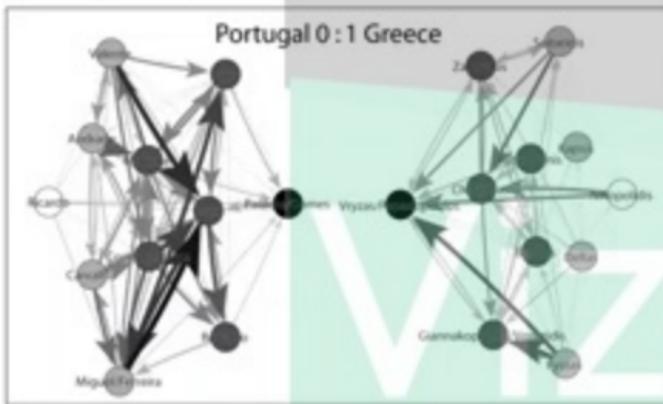




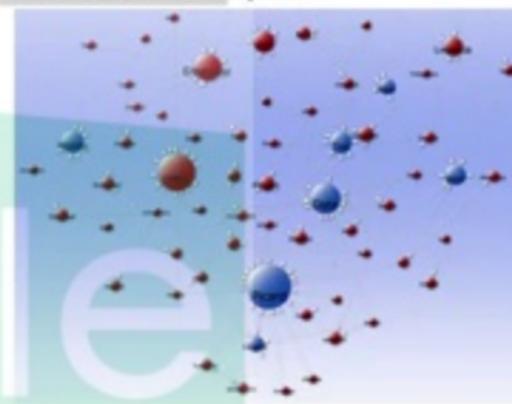
Flight Networks



Software Graph



Soccer Networks



Star-Trek Network

Social Network Analysis

112th Congress (2012), 100 Senators, 251 Vote

The U.S. Congress Votes Database

112th Congress ▾ Votes Members

Search for Senators by name or state

DECEMBER 21, 2012 | VOTED 231

Yes 57

No 34

Not voting: 8

Yes 57

(60 3 2) (8)

No 34

(6 34 0) (10)

ABOUT THIS VOTE
On the Motion
Motion to Waive Sec. 214(c)(1) of the
Congressional Budget Act, in the nature of
a substitute.

Not Voting 8

(2 8 0) (4)

P Name State

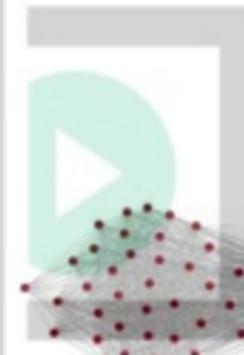
Daniel Akaka	HI
Max Baucus	MT
Mark Begich	AK
Michael Bennet	CO

P Name State

Andrew Alexander	TG
Kelly Ayotte	ME
John Barrasso	WY
John Boozman	AR

P Name State

Scott Brown	MA
Richard Burr	NC
Thomas Coburn	OK
James DeMint	SC



min 125 shared votes

Networks, why do we care?

Takes context into account

More than entities and attributes:

How are the nodes related to each other?

Seemingly autonomous entities are
embedded in relations and interactions



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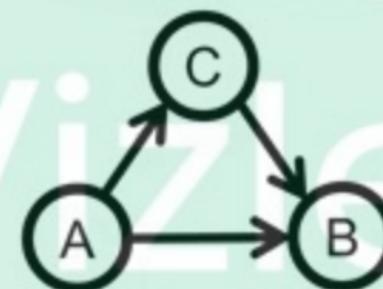
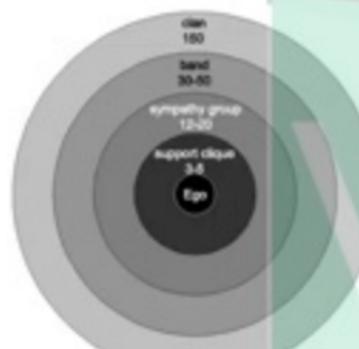
Social Forces

Why do people communicate/connect?

What are the characteristics of "social" networks?

Strength of ties

Network structures tell stories



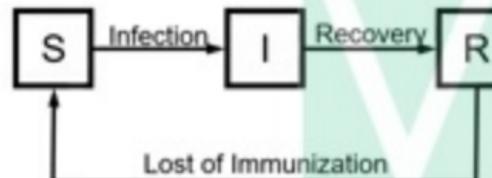
Diffusion Processes

Epidemic concepts and models

How does this structure affect the diffusion of information, opinions, and messages?

Simulation of social dynamics

Viral marketing?





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