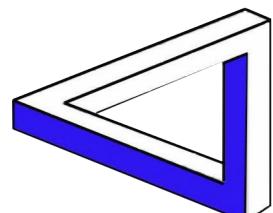


Timoteo Carletti

The mathematics of opinion spreading
in social networks



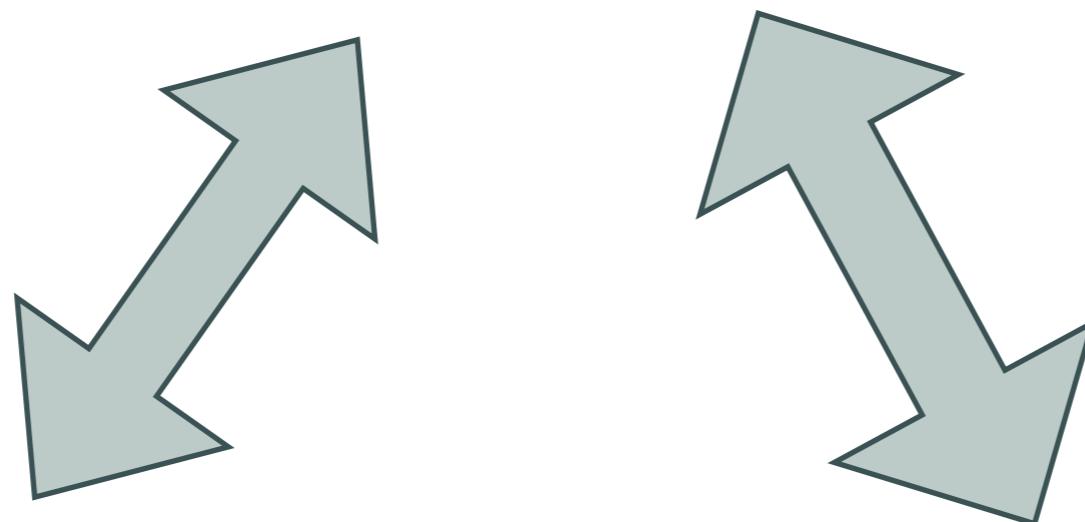
Department of mathematics
UNamur

naxys
Namur Institute for Complex Systems

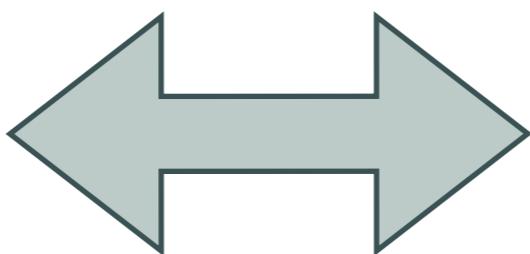
un
UNIVERSITÉ
DE NAMUR

timoteo.carletti@unamur.be

MODELS



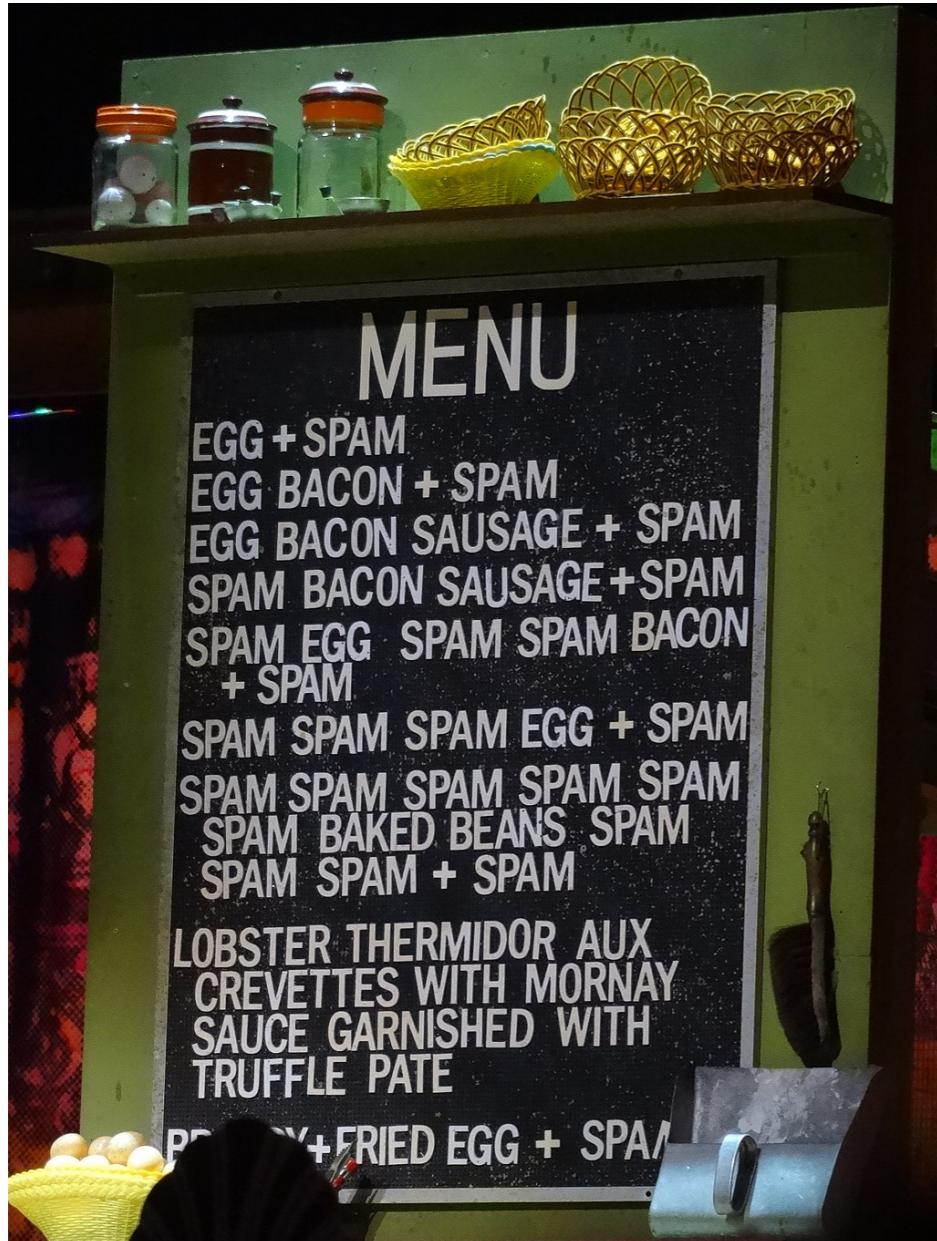
DATA



ANALYSIS

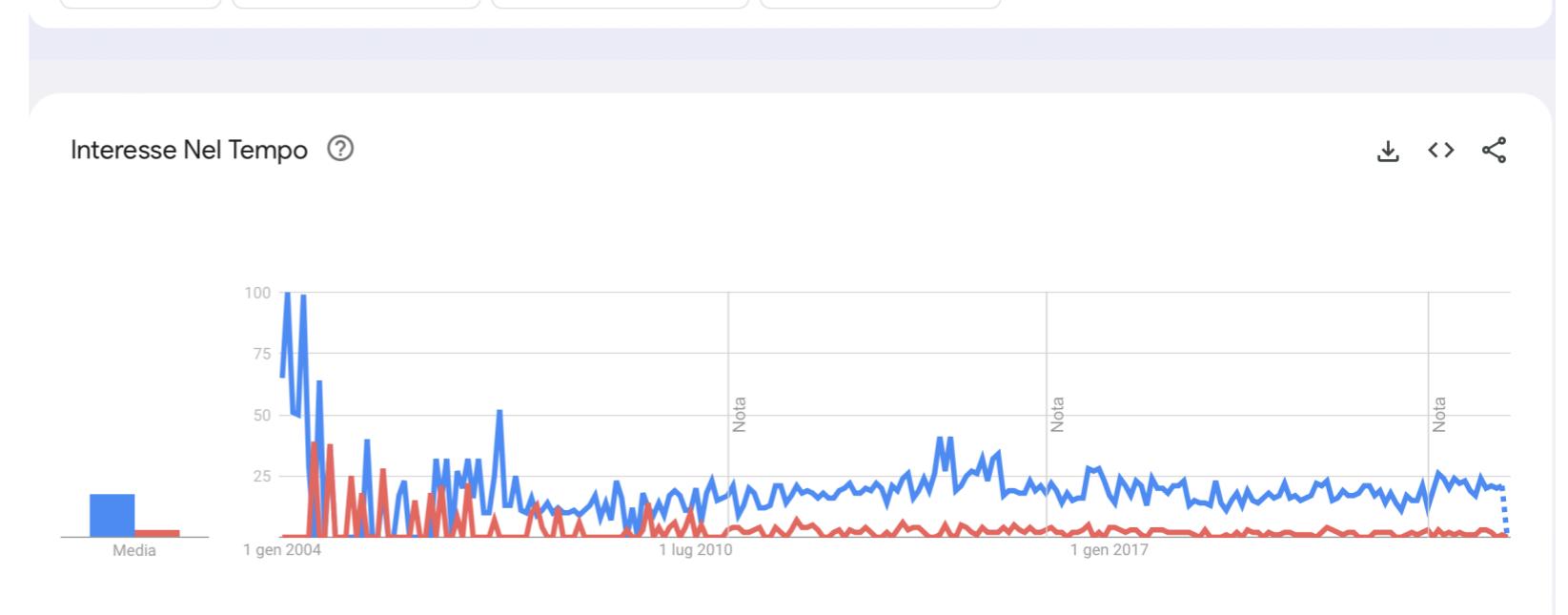
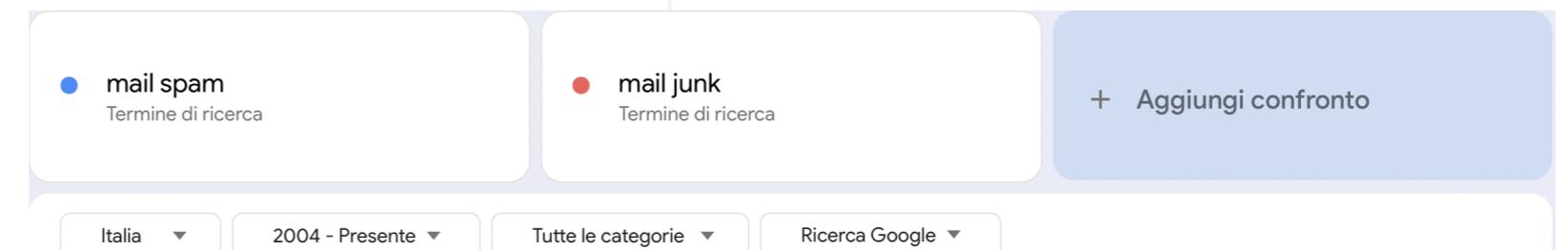
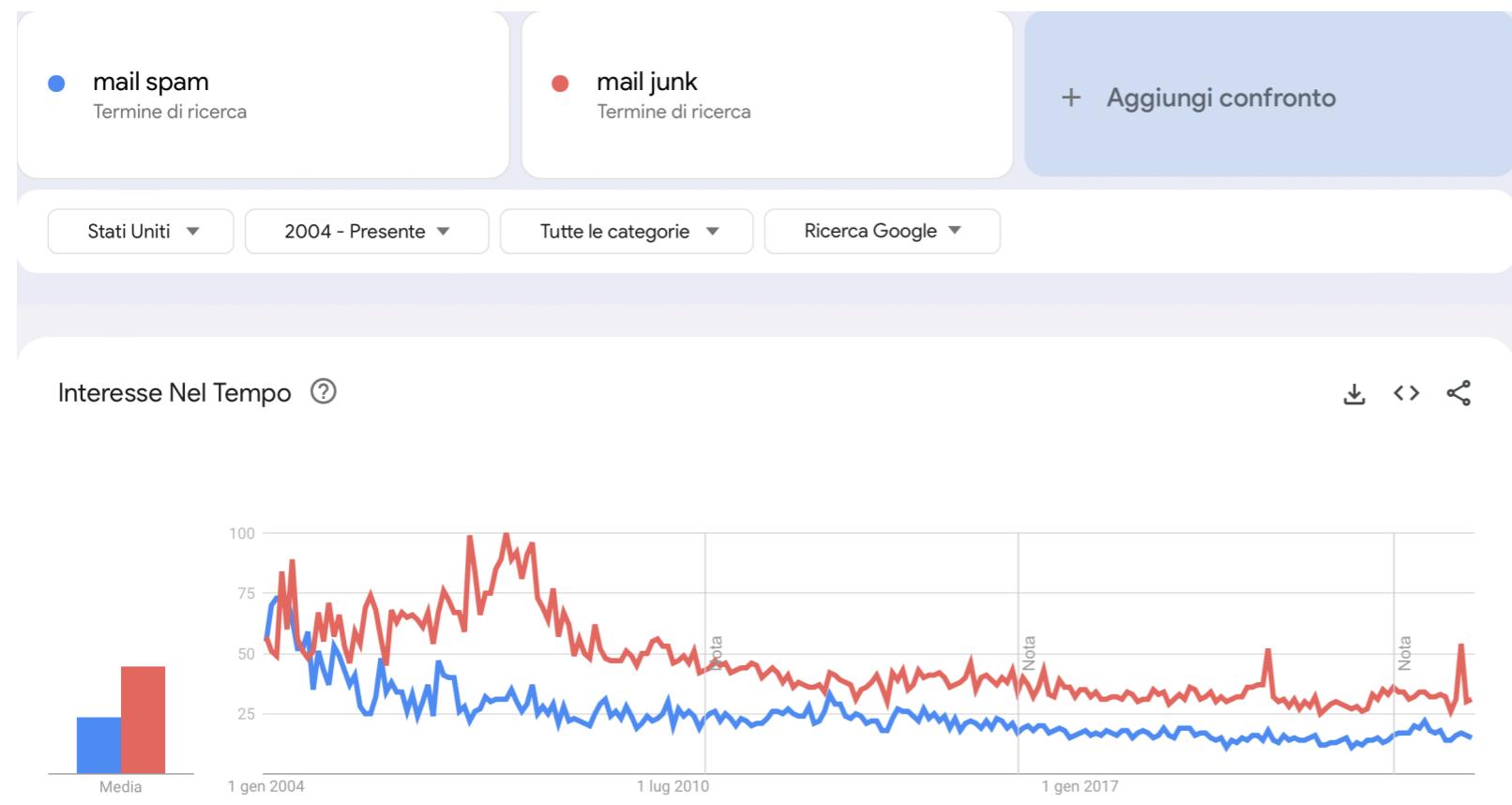


“Spam” Monty Python sketch, (series 2, episode 12, 1970), by Terry Jones and Michael Palin.



SPAM®
BRAND





✉

✉ [timoteo.carletti@unamur.be](#)

- Server Settings
- Copies & Folders
- Composition & Addressing
- Junk Settings**
- Synchronization & Storage
- End-To-End Encryption
- Return Receipts

⌄ Local Folders

- Junk Settings
- Disk Space

✉ Outgoing Server (SMTP)

Account Actions ▾

Thunderbird Settings

Add-ons and Themes

⚙

Junk Settings

Selection

Enable adaptive junk mail controls for this account

If enabled, you must first train Thunderbird to identify junk mail by using the Junk toolbar button to mark messages as junk or not. You need to identify both junk and non junk messages. After that Thunderbird will be able to mark junk automatically.

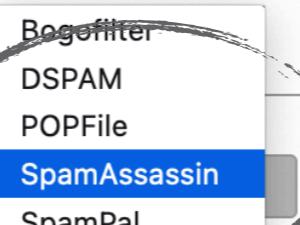
Do not automatically mark mail as junk if the sender is in:

Collected Addresses

Mac OS X Address Book

Personal Address Book

Trust junk mail headers set by



If enabled, Thunderbird will automatically consider messages marked by this external classifier as junk.

Destination and Retention

Move new junk messages to:

"Junk" folder on:

Local Folders

Other:

Junk Email on [timoteo.carletti@unamur.be](#)

Automatically delete junk mail older than

14

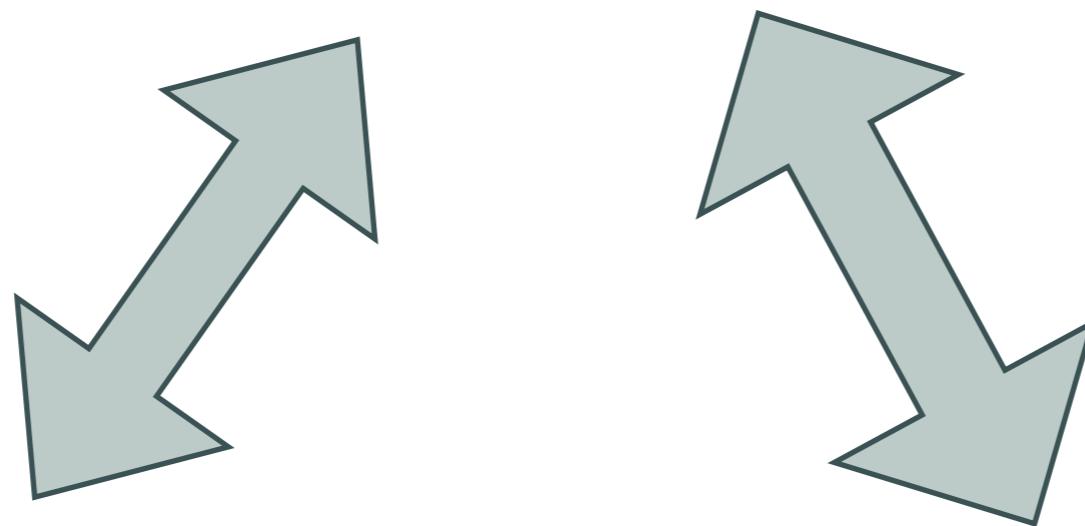


days

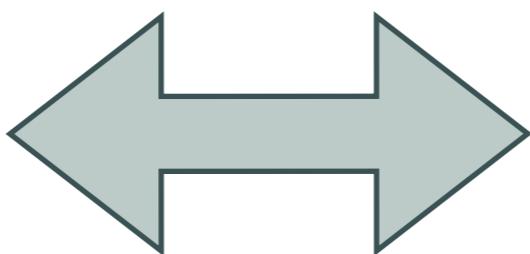


Welcome to
Thunderbird

MODELS



DATA



ANALYSIS



All models are wrong but some are useful

Box, George E. P. (1979), "Robustness in the strategy of scientific model building", in Launer, R. L.; Wilkinson, G. N., Robustness in Statistics, Academic Press, pp. 201–236.

**What matters is the question you are interested in
and the level of precision you want to achieve.**

myself



social network

interaction rules

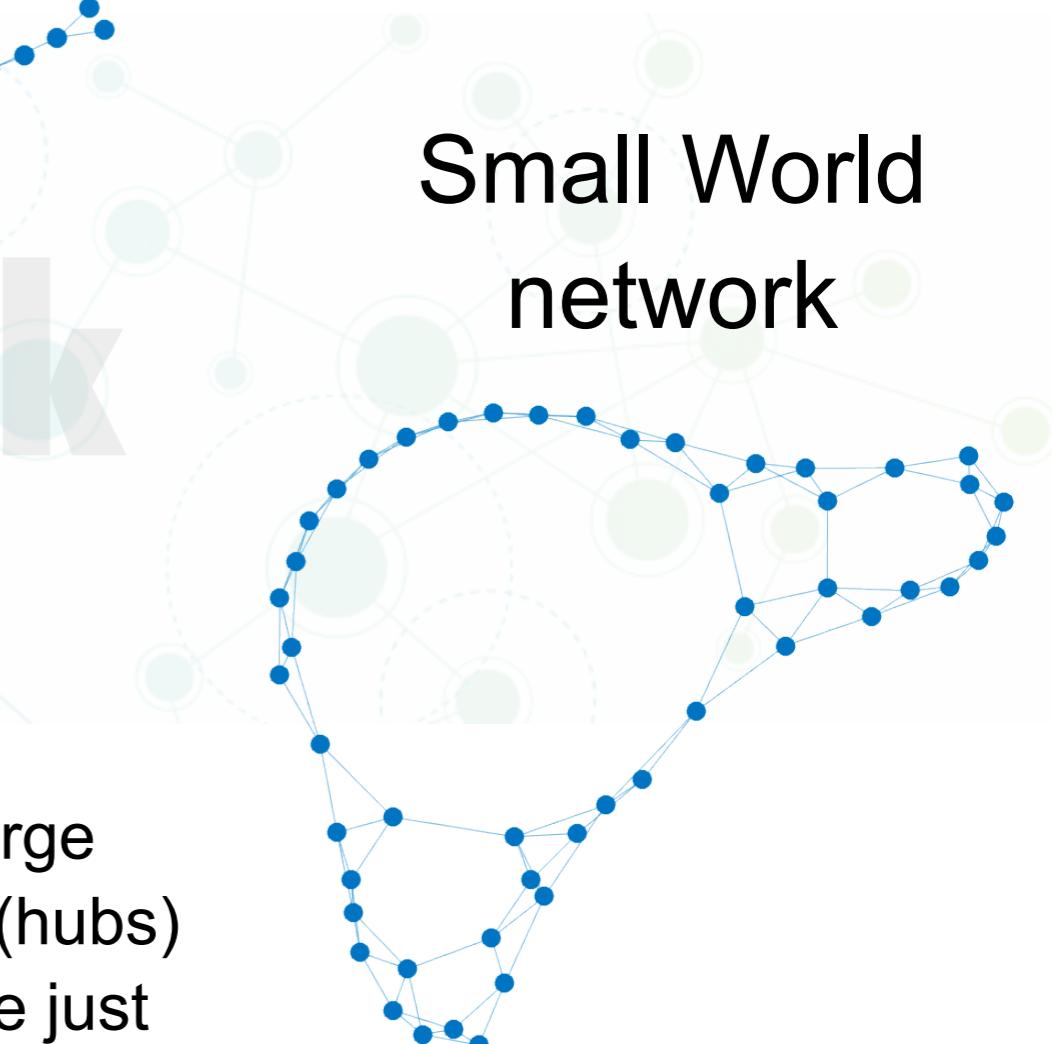
Random Network (Erdős–Rényi)

Scale Free Network



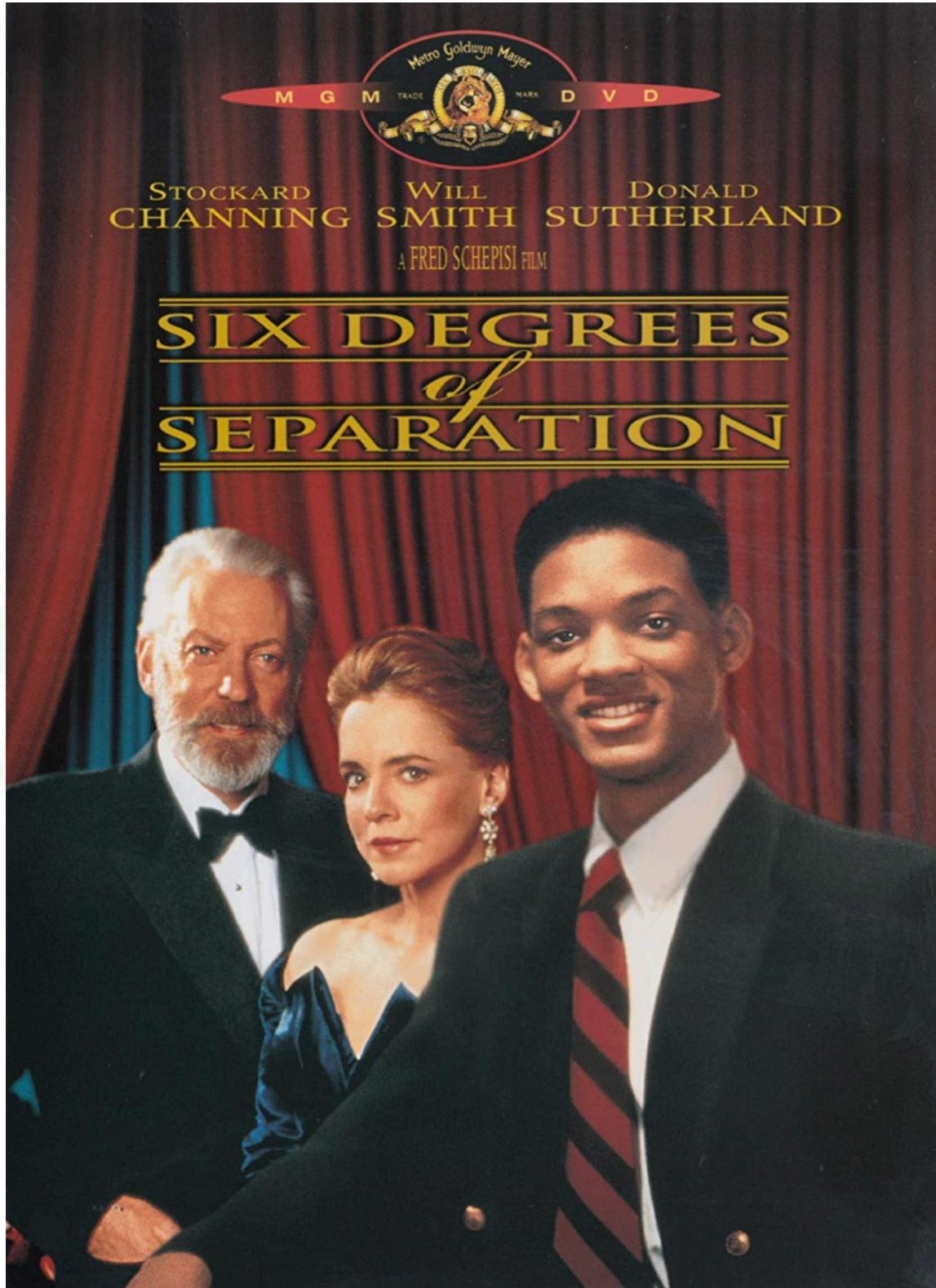
Every couple of nodes is connected with some probability

Few nodes have a large number of connections (hubs) while many nodes have just one or two connections



Every two nodes are “very close” each other

timoteo.carletti@unamur.be



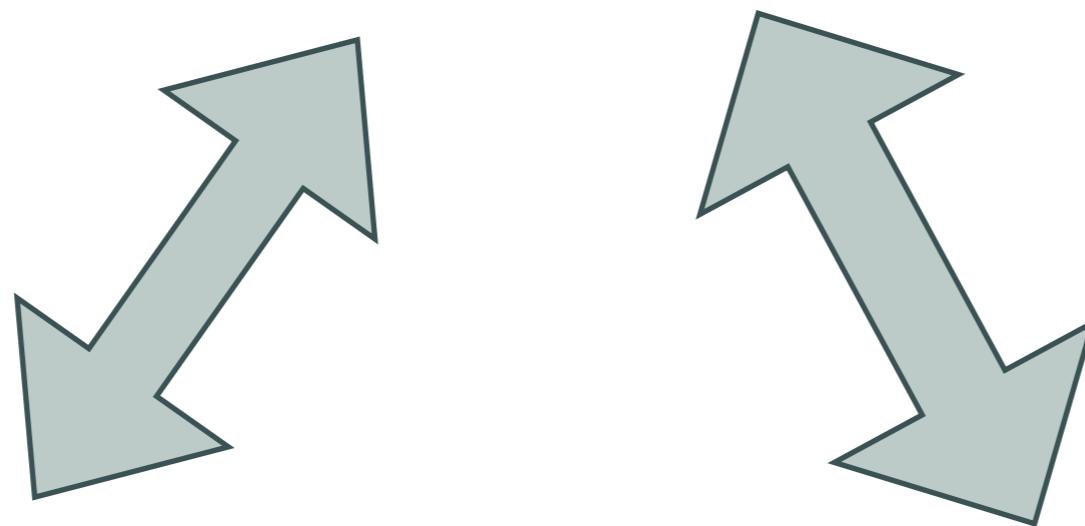
Small World network



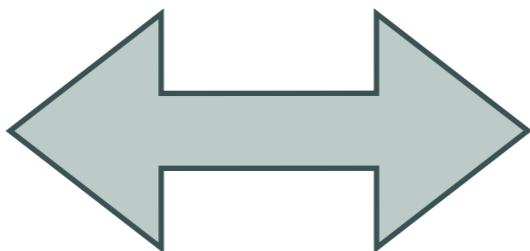
Every two nodes are “very close” each other

timoteo.carletti@unamur.be

MODELS



DATA



ANALYSIS

