



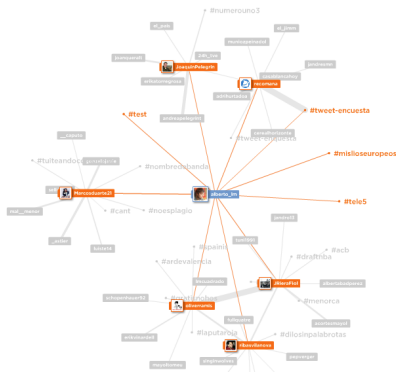
Trust Metrics and User Recommendation in Social Networks

Alberto Lumbreras
Ricard Gavaldà

2nd Graph-TA Workshop, February 21st, 2014

Goal of the thesis

Recommend *tweets*
to users based on their
social network

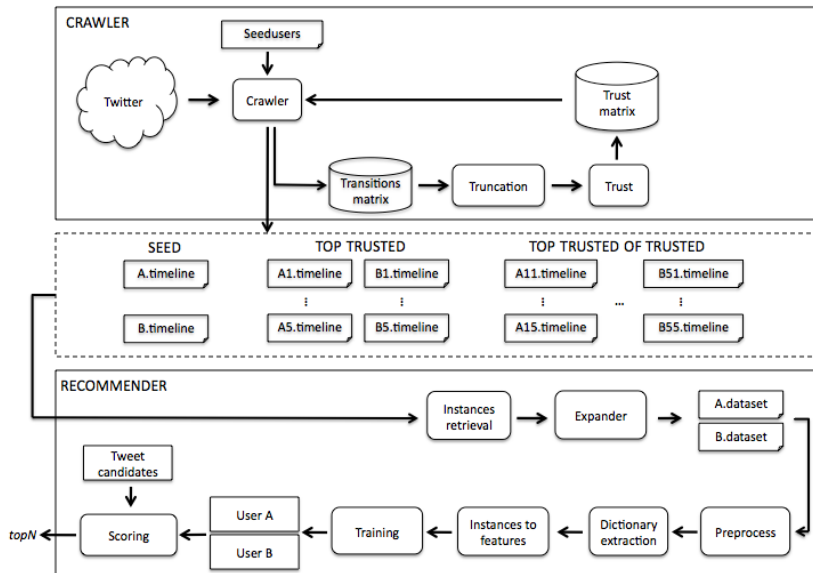


- ▶ Can “trust” improve tweet **recommendations**?
- ▶ Studying the concept of **trust** in Twitter

Contributions

- ▶ Recommender system prototype
- ▶ Trust metric (for social networks)
- ▶ Trust-aware crawler (for social networks)
- ▶ Analysis of trust properties in Twitter

Architecture



Computing Trust

Underlying question: What is trust?

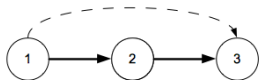
Direct trust computation:

- ▶ Explicit or implicit (user behavior and interaction)
- ▶ In Twitter: retweets, follows, mentions, favorites, ...



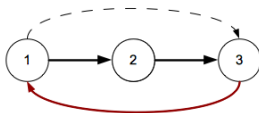
Trust propagation:

- ▶ Algorithms fit network properties (decay, trust horizon,...)
- ▶ Network as Markov Chain
- ▶ PageRank, EigenTrust, Tidal Trust, ...

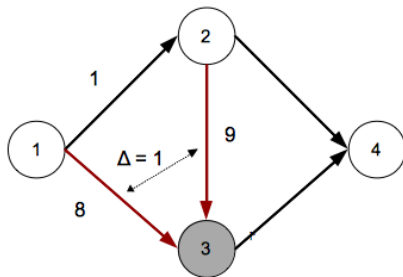


Trust-aware recommendations:

- ▶ Trust + Collaborative Filtering
- ▶ Trust + Content Based Filtering



Transitivity?



- ▶ No evidence of transitivity
- ▶ But people tend to agree on *ranking of common neighbors*
- ▶ And trust *does help* in improving recommendation

More information

- ▶ I'm around all day
- ▶ Slides, paper, thesis in
<http://albertolumbreras.net/publications/>