

VISUALIZATION OF TRUSTWORTHINESS

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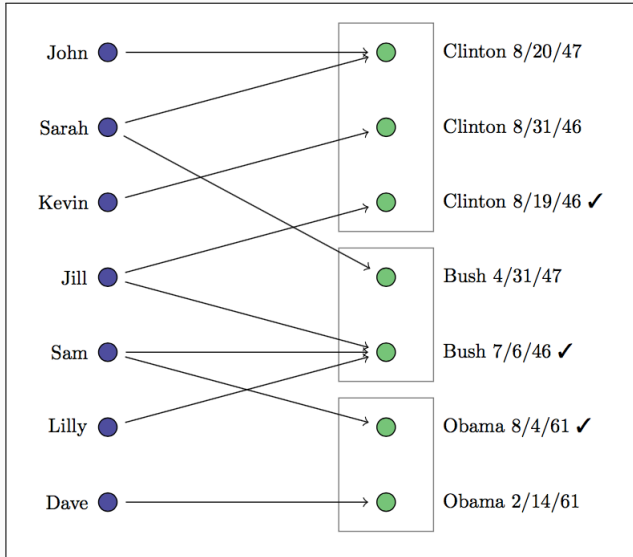
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TRUSTWORTHINESS

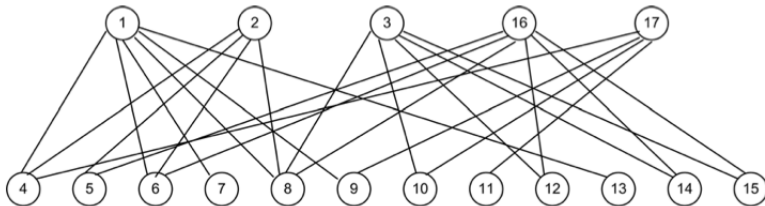
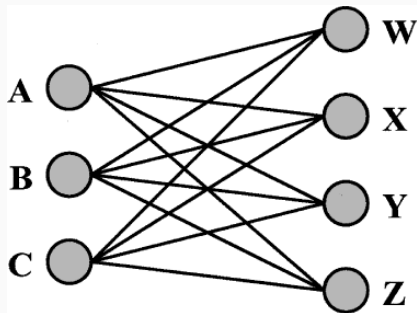
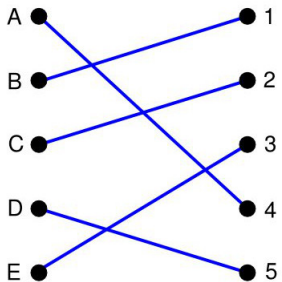
- Bipartite graph $G(V, E)$, $V = \{S, C\}$. S are sources, C are claims.
- Directed, all edges start in S and end in C .
- C is partitioned into mutual exclusion sets.
- Typically exactly one correct answer in each mutual exclusion set.

THE GRAPH



- Majority Voting
- Hubs and Authorities
- SALSA
- AverageLog
- PooledInvestment
- PageRank
- PopAccu
- Latent Credibility Analysis
- TruthFinder
- KOS
- IWMV
- MTM
- ... and many others.

THE PROBLEM



HOW TO CHARACTERIZE?

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Sources	
Total	52
Claims	
Total	49496
Unique	15828
Claims per Source	
Mean	952
Std dev	601
Mutual Exclusion Sets	
Total	1897
Claims per ME	
Mean	26
Std dev	47

Table 1: Statistics over the KBP2013 data.

DATA

Query:

John Q. Smith

Slots:

Age:

Spouse:

Children:

Spouse:

Date of birth:

Date of death:

Cause of death:

...

From KBP2013, Slot Filling
Validation task.

Many queries,
queries have slots,
slots get responses.

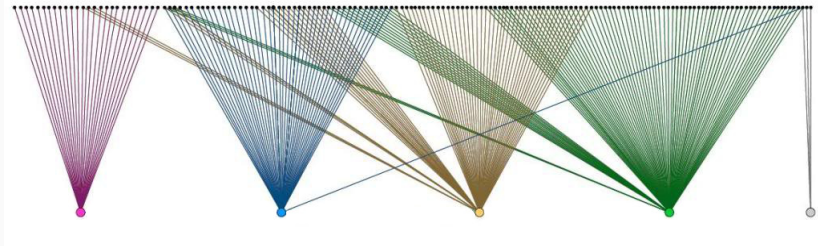
Sources are slot-filling
systems.

VISUALIZATION

WHAT ARE THE OPTIONS?

1. Node/link with bipartite layout.
2. Node/link with Physics-based layout.
3. Matrix representation.

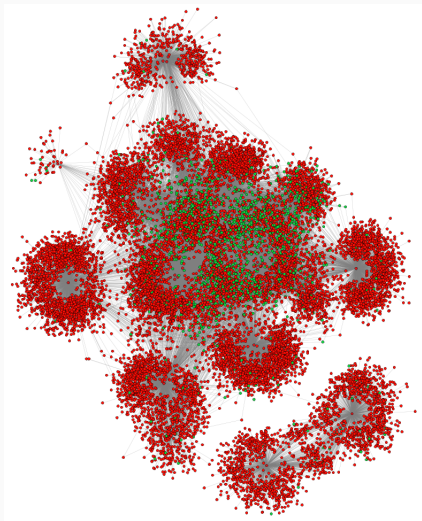
BIPARTITE LAYOUT



Pro: simple, intuitive.

Con: does not scale.

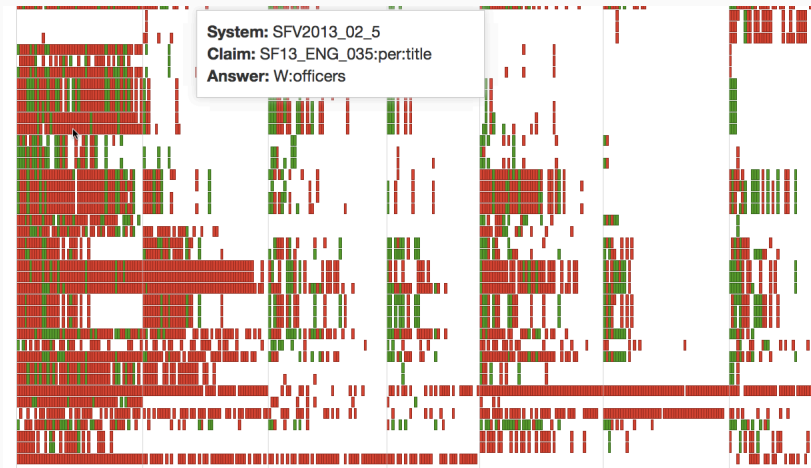
Picture taken from <http://forum.gephi.org/viewtopic.php?t=1100>



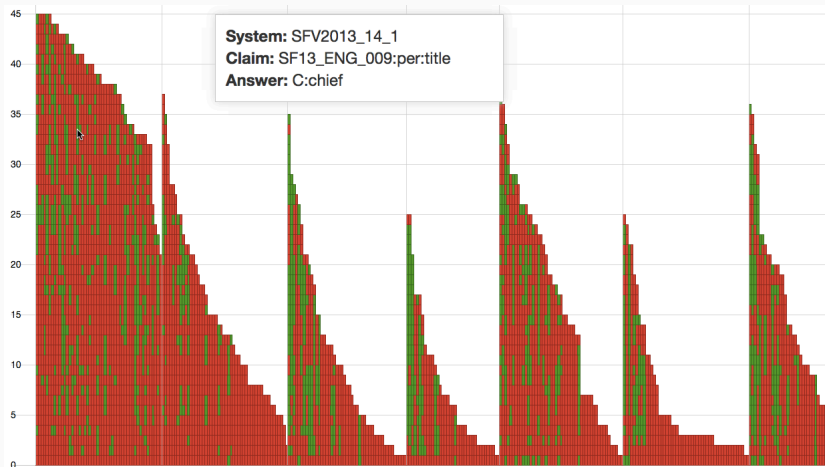
Pro: can see communities easily.

Con: individual nodes and connections are obscured.

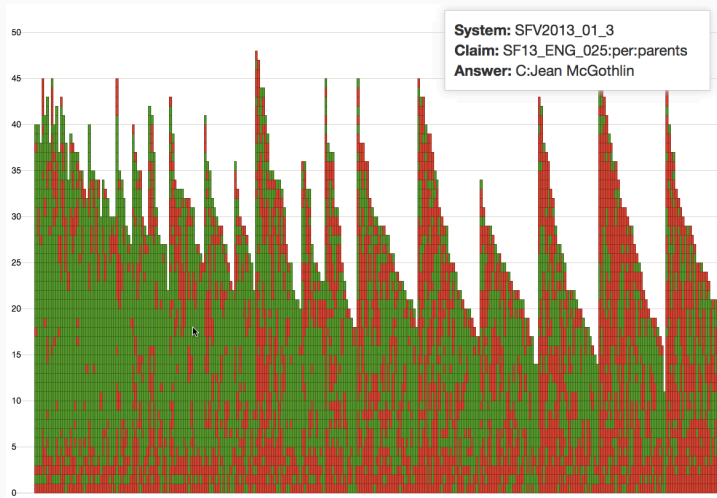
MATRIX REPRESENTATION



See: cogcomp.cs.illinois.edu/~mayhew2/kbpvis



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THANK YOU.

(AND MANY THANKS TO FANGBO FOR PRESENTING IN MY ABSENCE)

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DEMO:

cogcomp.cs.illinois.edu/~mayhew2/kbpvis

PAPER:

cogcomp.cs.illinois.edu/~mayhew2/papers/MayhewRo15.pdf

SLIDES:

cogcomp.cs.illinois.edu/~mayhew2/papers/MayhewRo15_slides.pdf

CODE:

gitlab-beta.engr.illinois.edu/mayhew2/trustworthiness-visualization