

Why Do You Follow Him? Multilinear Analysis on Twitter

WWW2015 @ Florence

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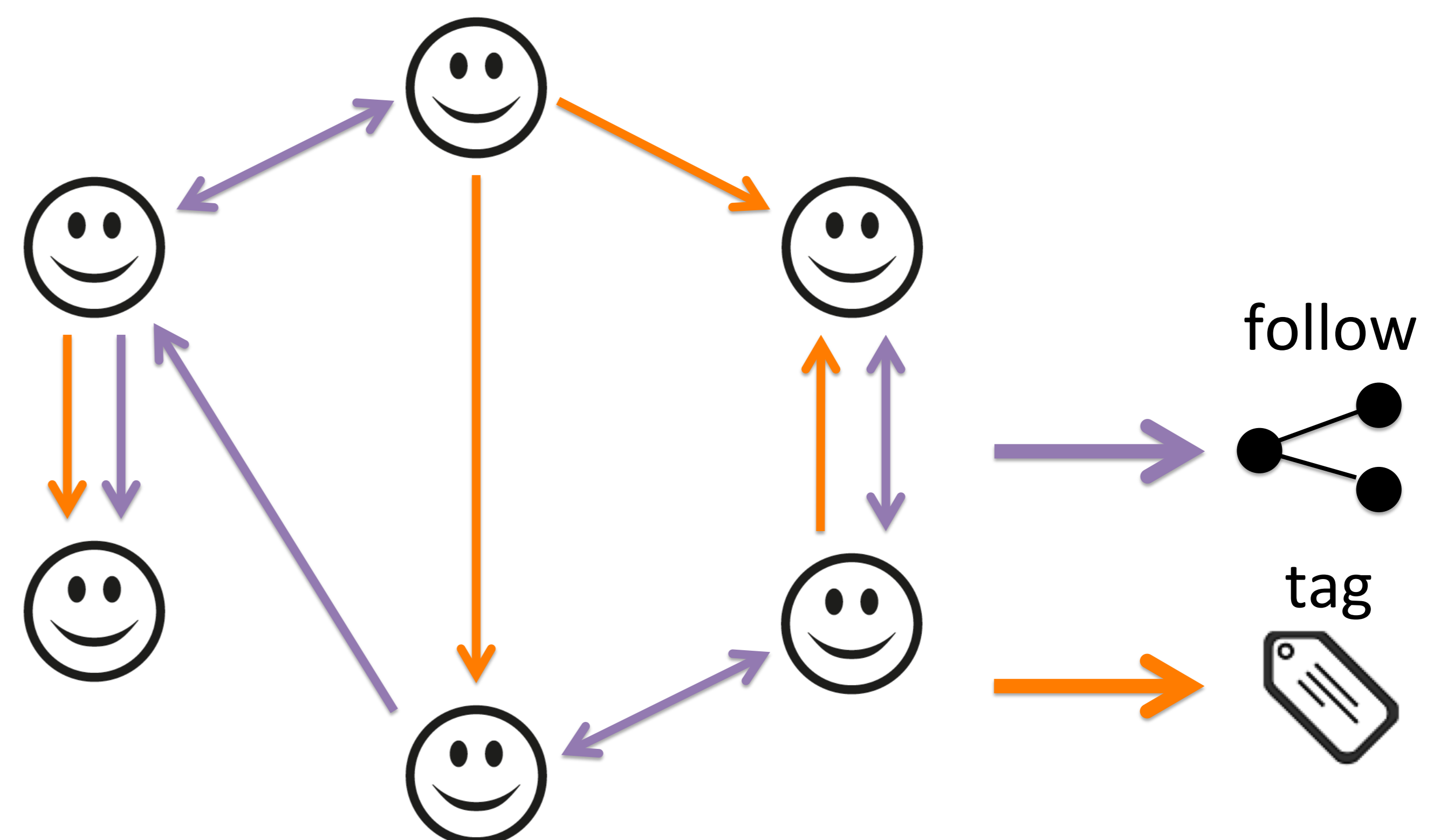
BACKGROUND

Why do you follow BarackObama?

Is it because he is the President?

Or because he is a lawyer?

We reveal the answer for this question by studying “**Following & Tagging network**” on Twitter.



Following & Tagging Network

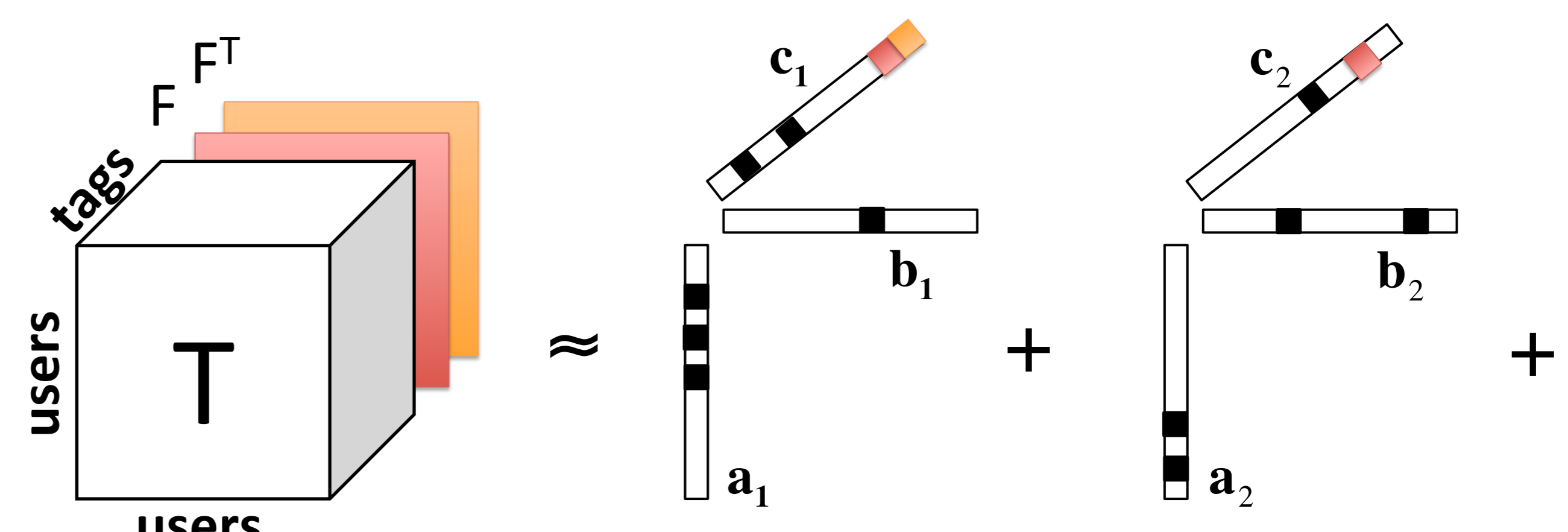
METHOD

We factorize a tensor constructed from the network.

Tagging tensor and following matrices.

Each output component means “**These users follow those users by this reason**”.

Orange and red cells indicate the following directions.



Tensor Factorization

RESULTS

Data: <http://dx.doi.org/10.5281/zenodo.13966>

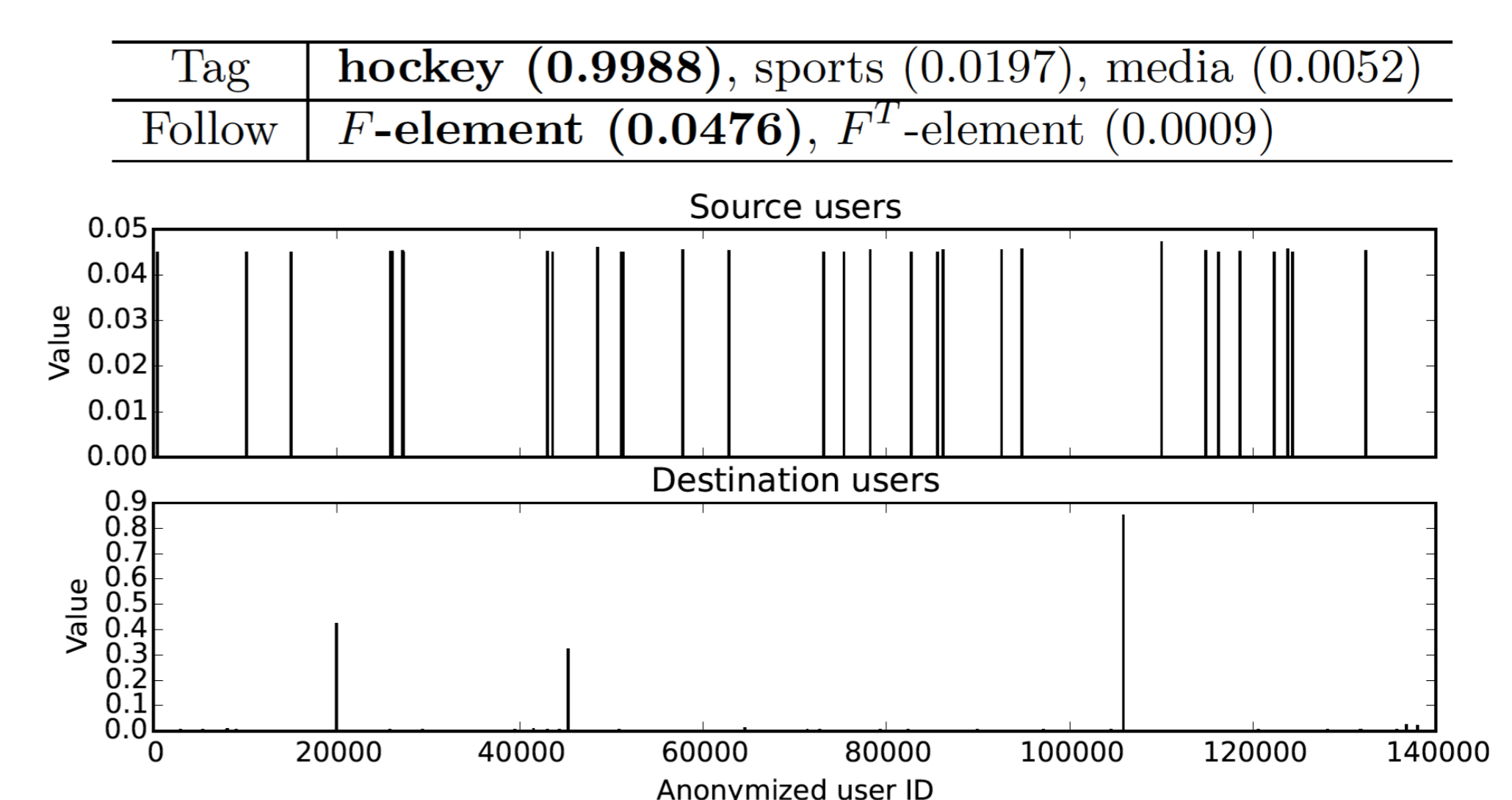
Code: <https://github.com/yamaguchiyuto/tagf>

Our results make sense.

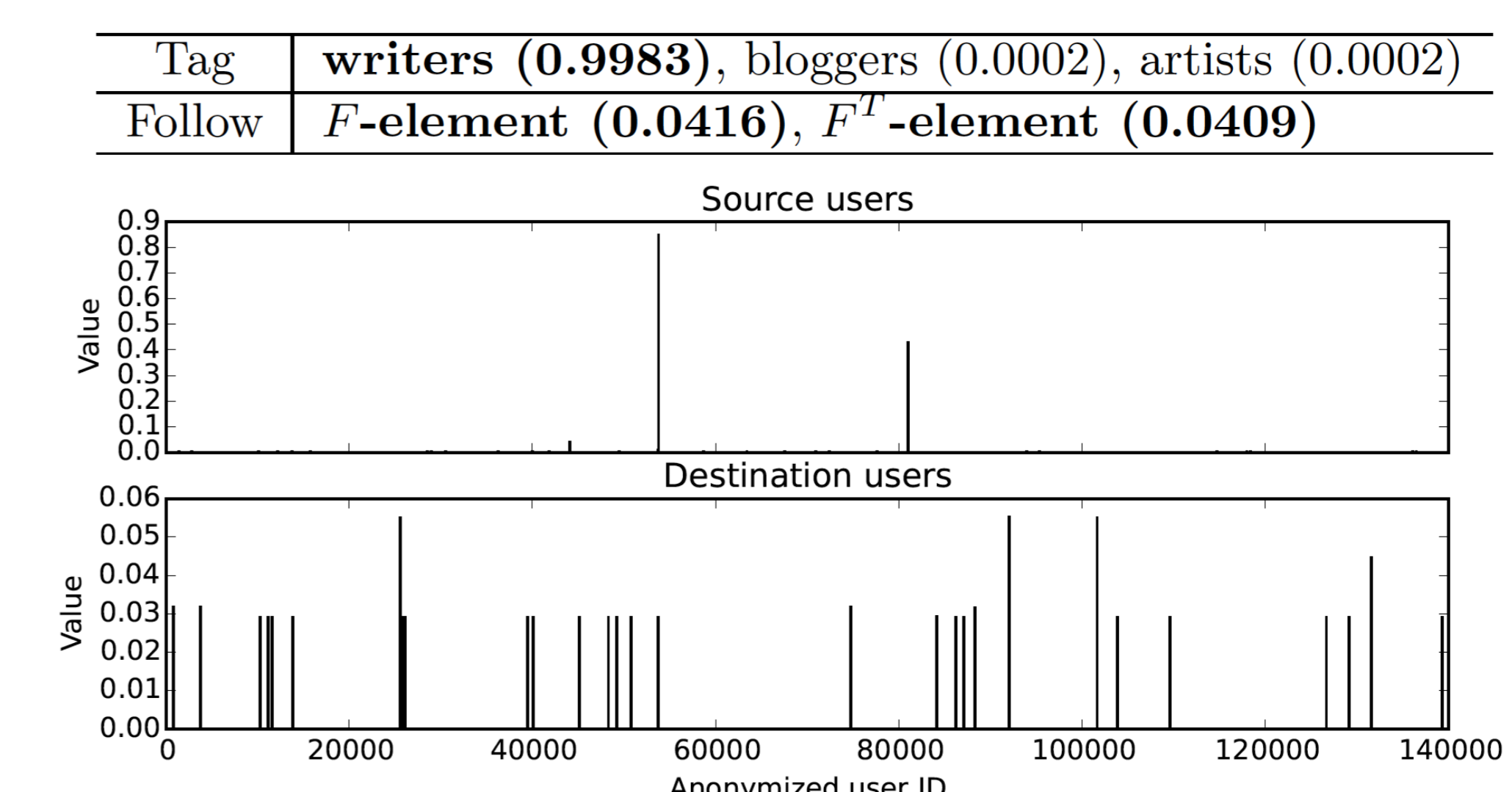
Meaningful components are obtained, such as Hockey component and Writers component.

(a) A lot of users follow 3 users because these 3 users are famous hockey players.

(b) 2 users and a lot of users follow each other because these all users are writers.



(a) Hockey component



(b) Writers component