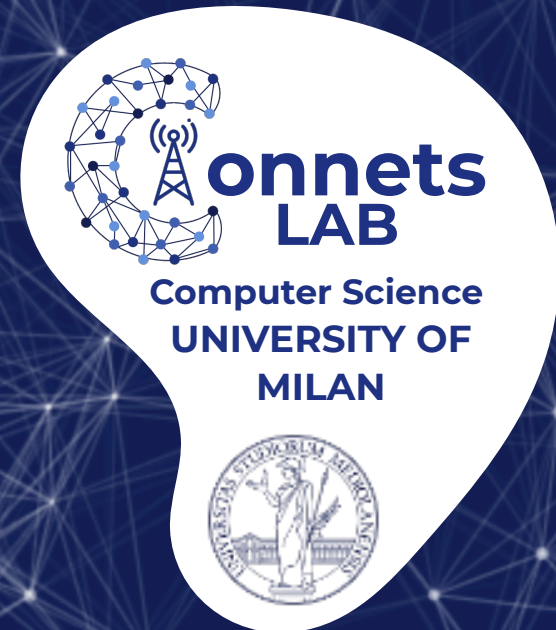
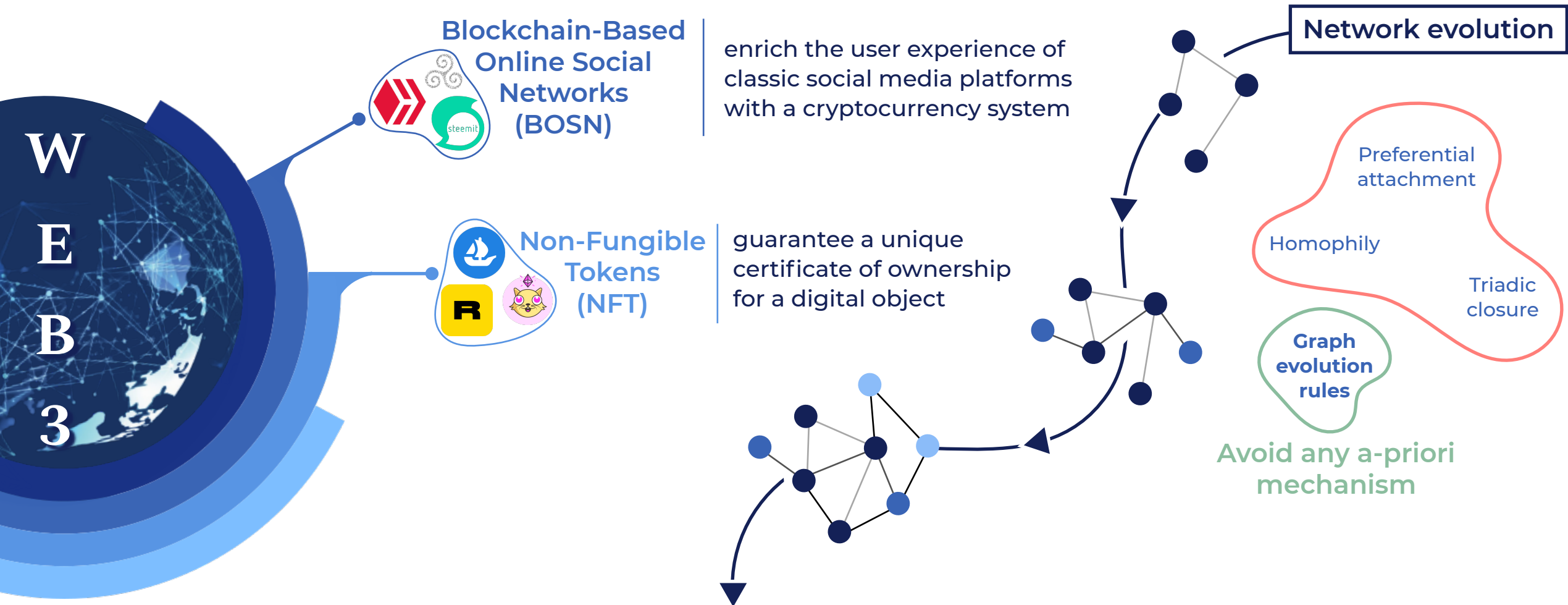


# The growth of Web3 techno-social systems through graph evolution rules

Alessia Galdeman, Matteo Zignani,  
And Sabrina Gaito

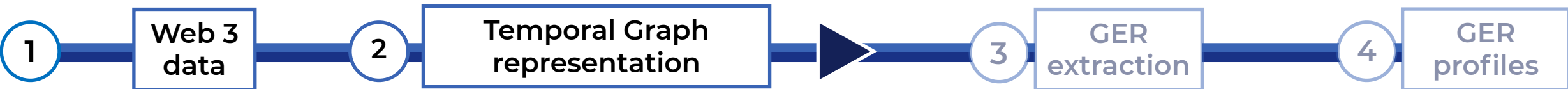


# Methodology

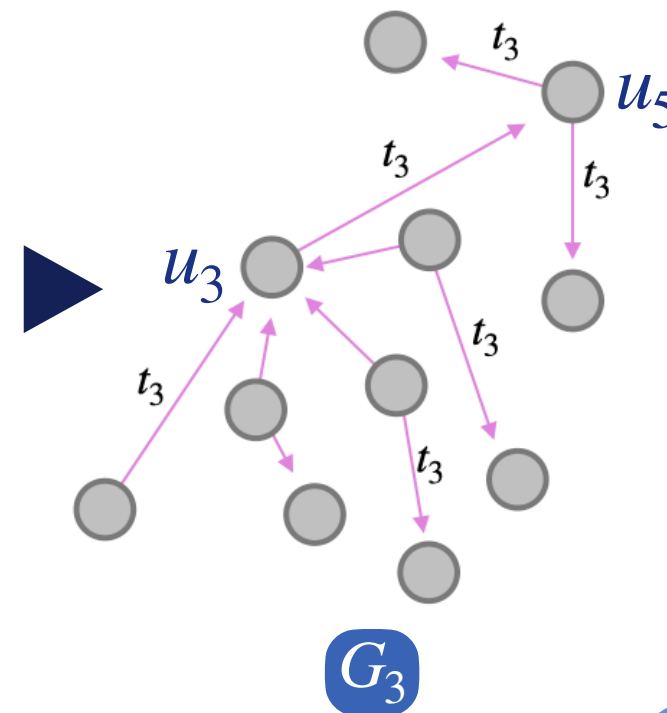
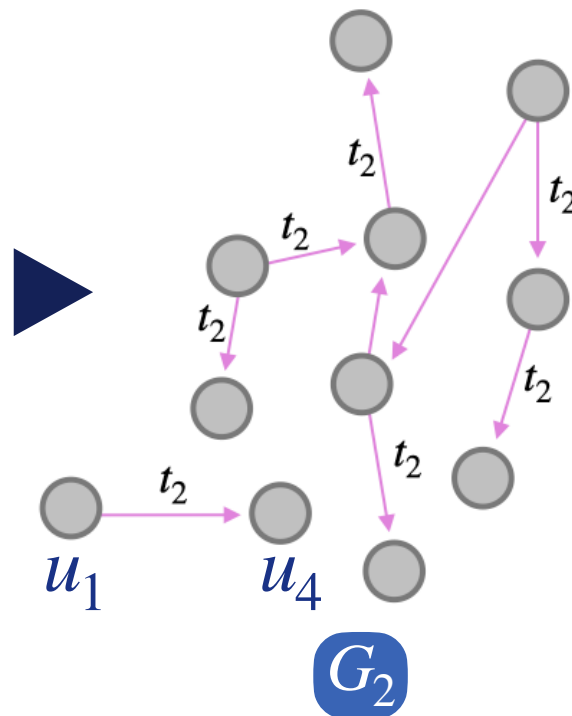
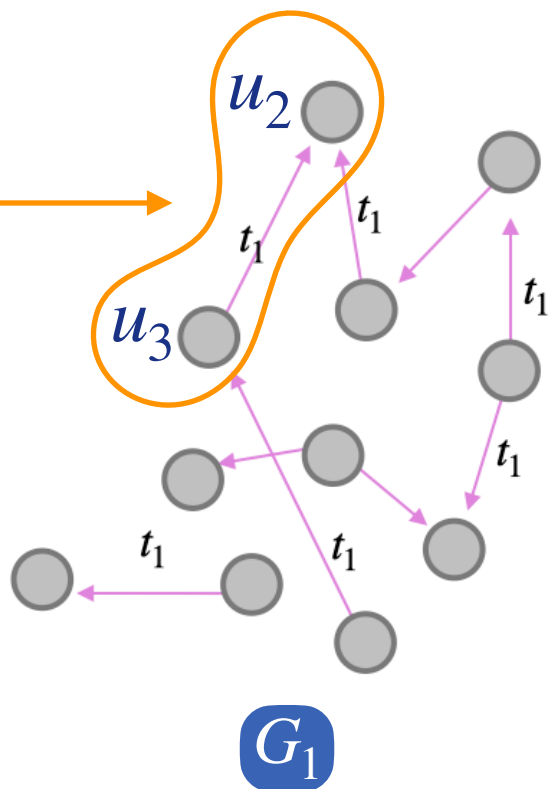


# Methodology

## PIPELINE

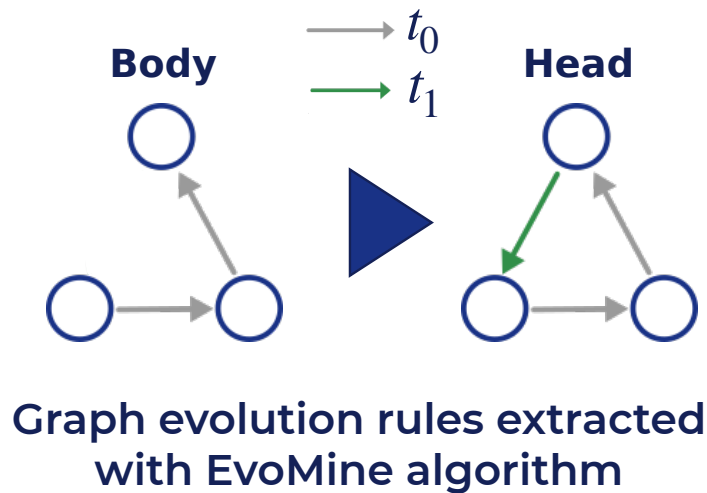


- $(u_1, u_2, t_1)$
- $(u_3, u_2, t_1)$
- $(u_1, u_4, t_2)$
- $(u_2, u_5, t_3)$
- $(u_3, u_5, t_3)$
- ⋮
- ⋮
- ⋮



# Methodology

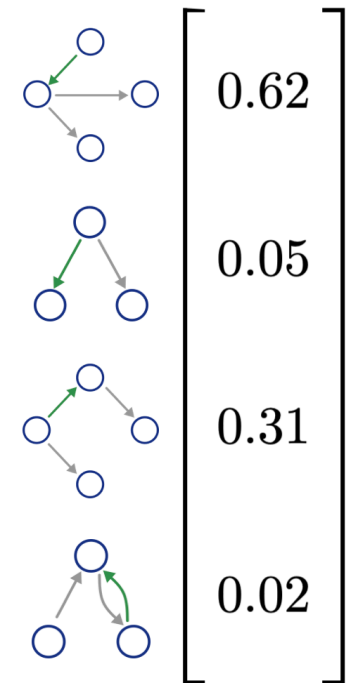
## PIPELINE



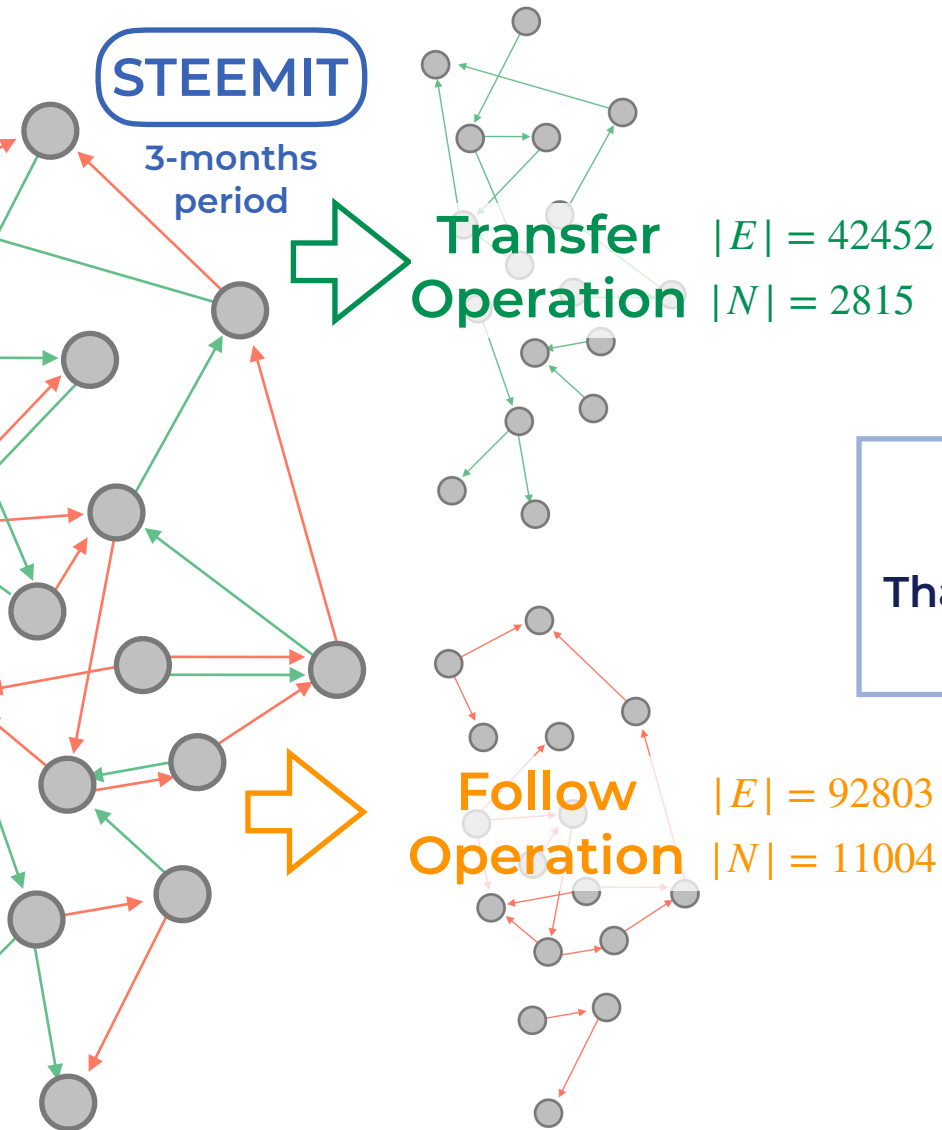
GER profiles

Show the distribution over different GER

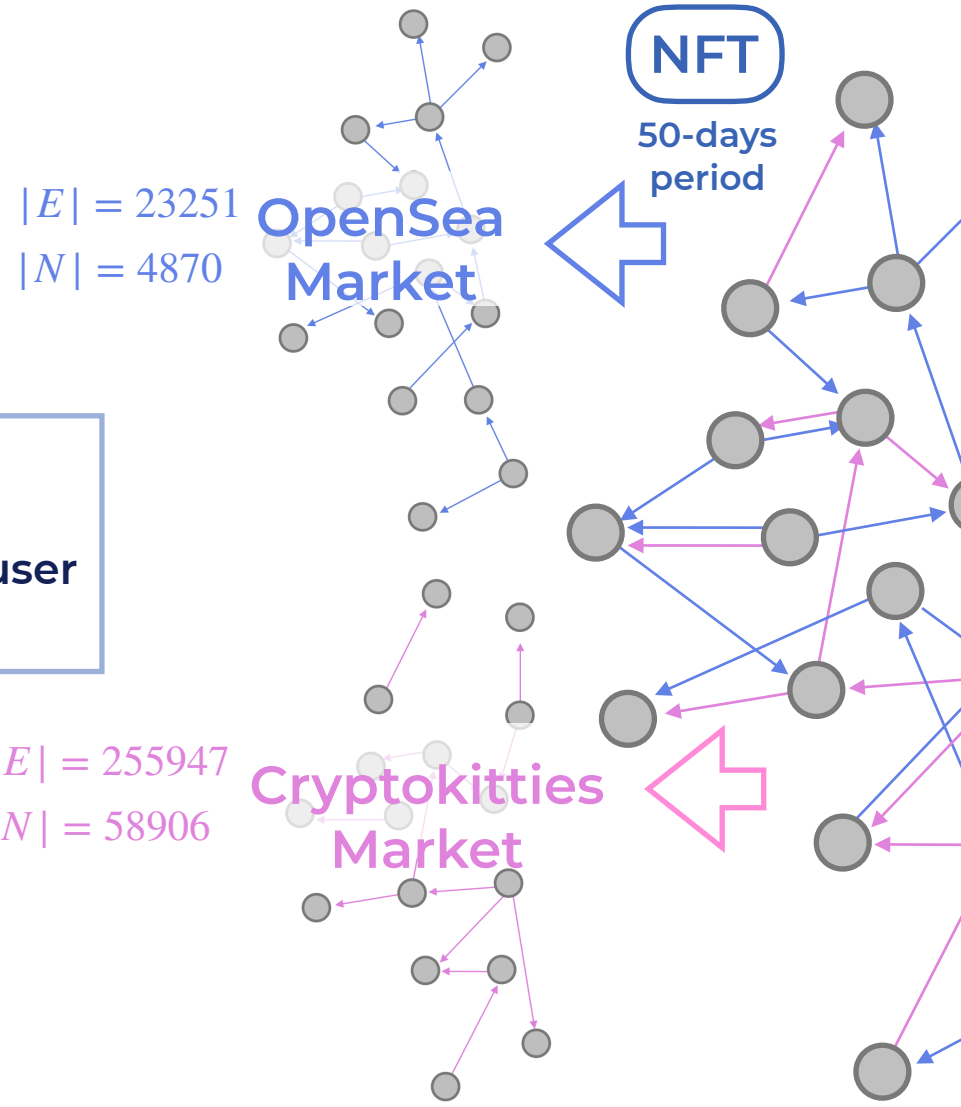
Used to compare evolutionary behaviour of different graphs



# Dataset

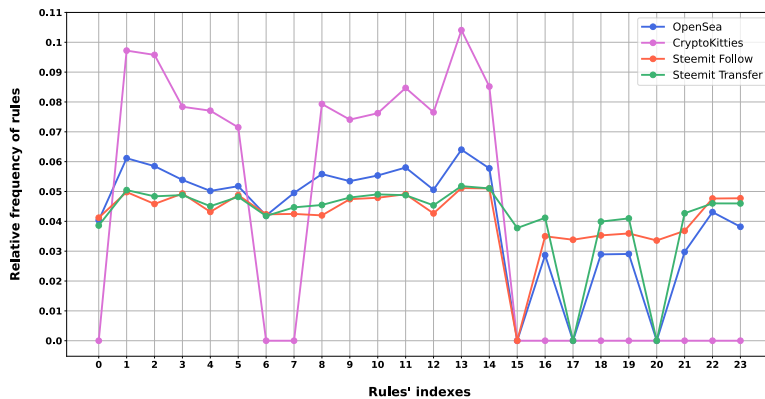


Each operation is a tuple  $(u, v, t)$   
That record the operation from user  $u$  to user  $v$  at timestamp  $t$

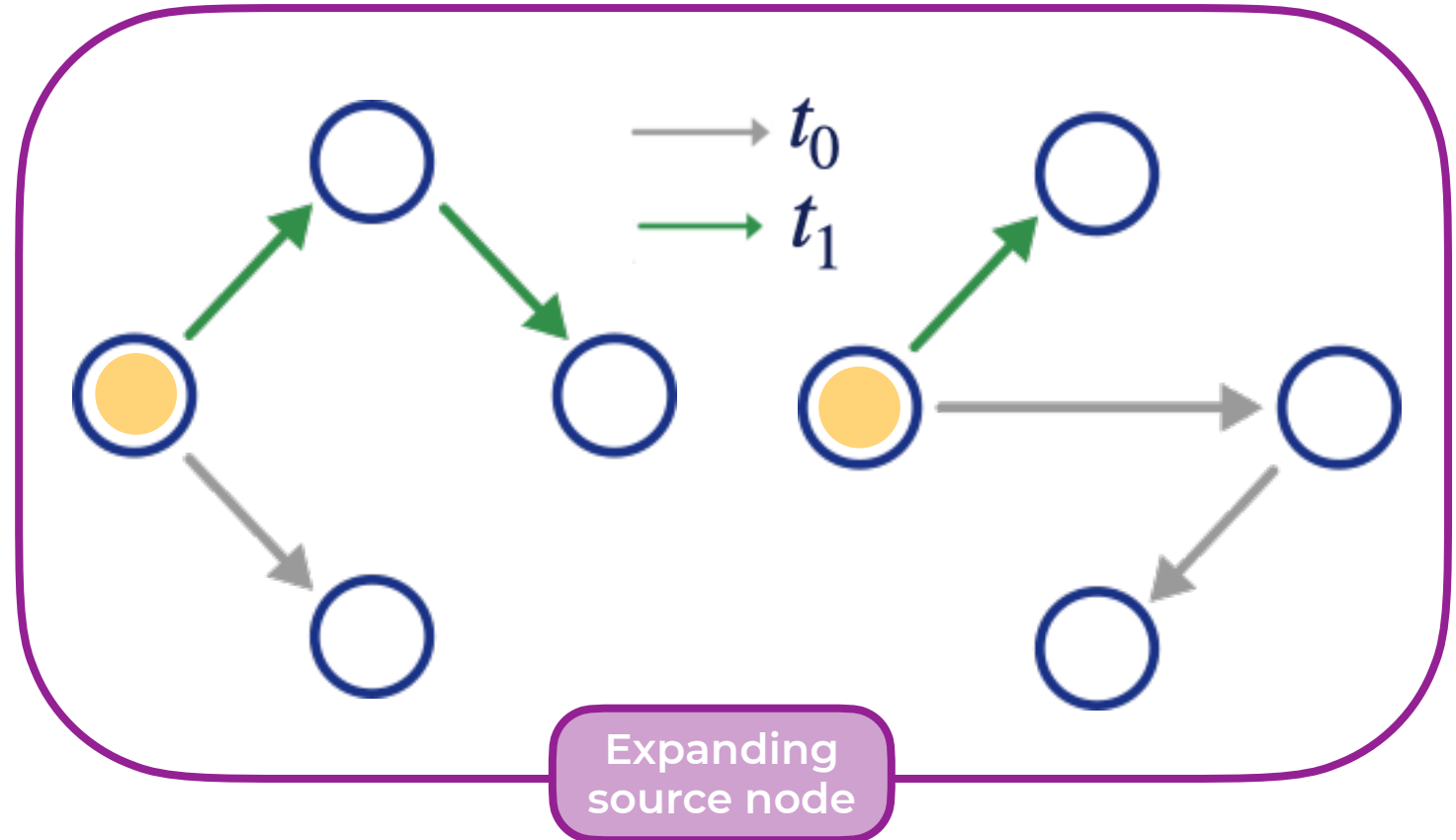


# Results

Number of rules	Dataset
21	NFT OpenSea
12	NFT Cryptokitties
23	Steemit Follow
22	Steemit Transfer

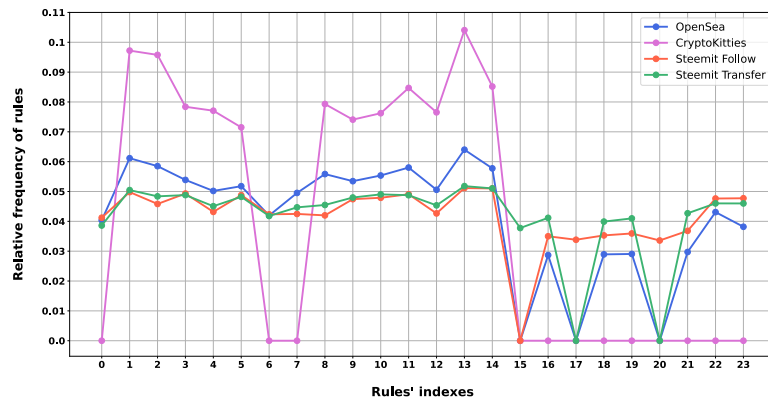


Frequent in all platforms

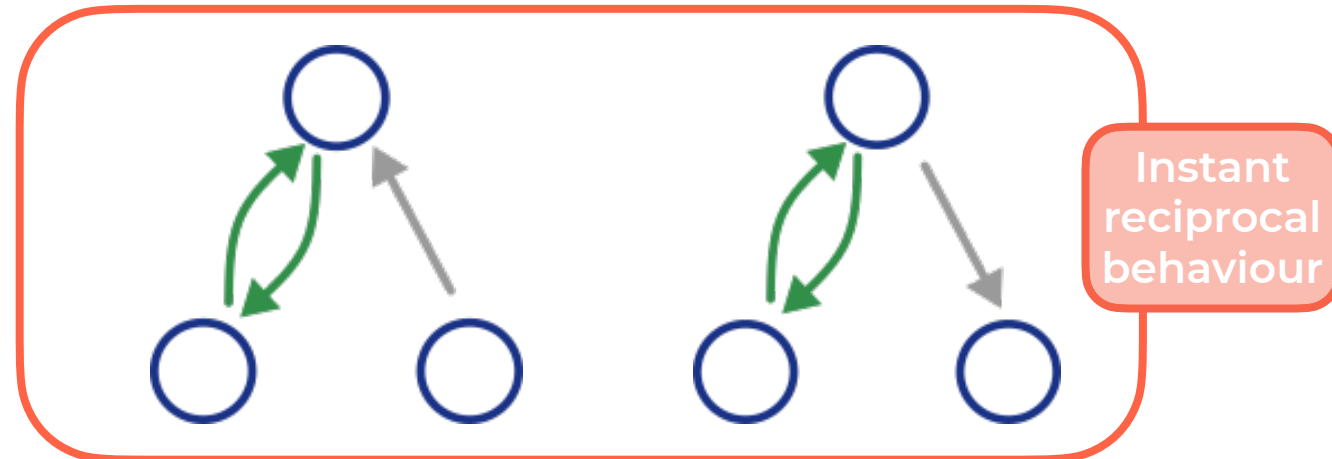
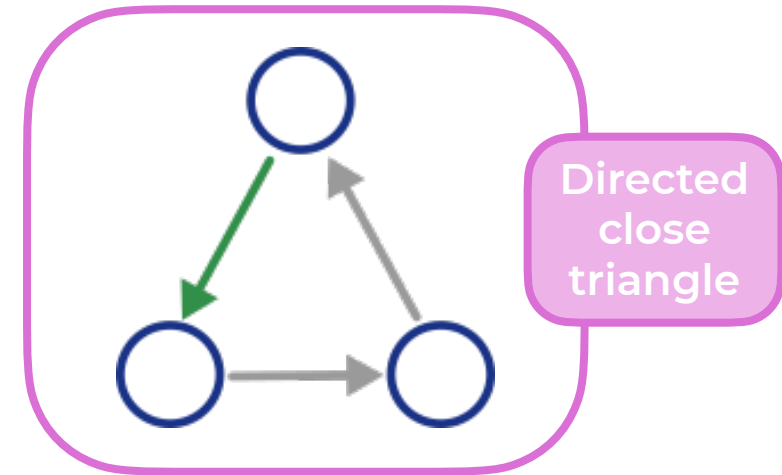


# Results

Number of rules	Dataset
21	NFT OpenSea
12	NFT Cryptokitties
23	Steemit Follow
22	Steemit Transfer



Related to the nature of the platforms



# Conclusions



Web3 data  
modeled as  
temporal  
networks



Graph evolution  
rule mining



GER profile to  
compare the  
evolution of  
different  
networks

We identify:

- rules that are common to every platform,
- some evolution mechanisms strictly related to the nature of the single platform



# Future works



- Performance
- Significance
- Explainability
- Application

**Thanks for  
your attention**