Introduction to Problem

Social Media Polarization

Previously….

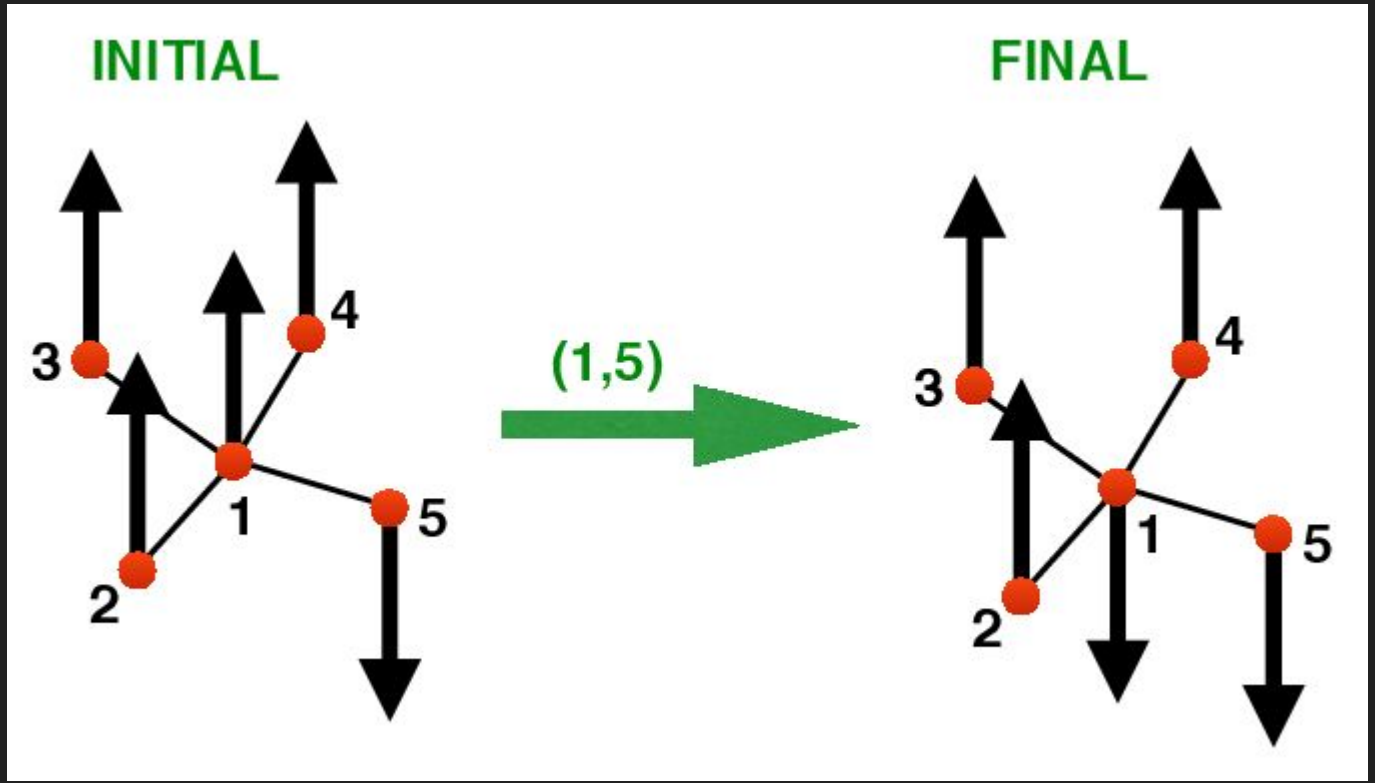
- Literature Survey
- Abstract of 3 excel sheets
  - All papers to filter through
  - All models in paper
  - Extensions of Voter model
- Choice of Voter model implementation
- Implementation of basic voter model as pseudo code.

Where we stand now:

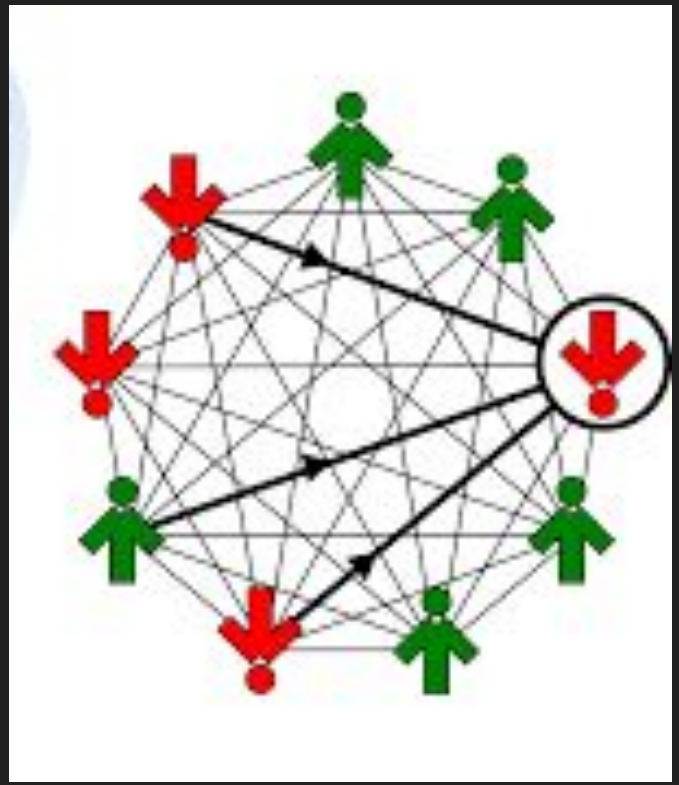
Choice of 4 new models to implement:

- Voter Model
- Q Voter Model
- Majority Voter Model
- Q Voter Independence Model
- Sznajd Model

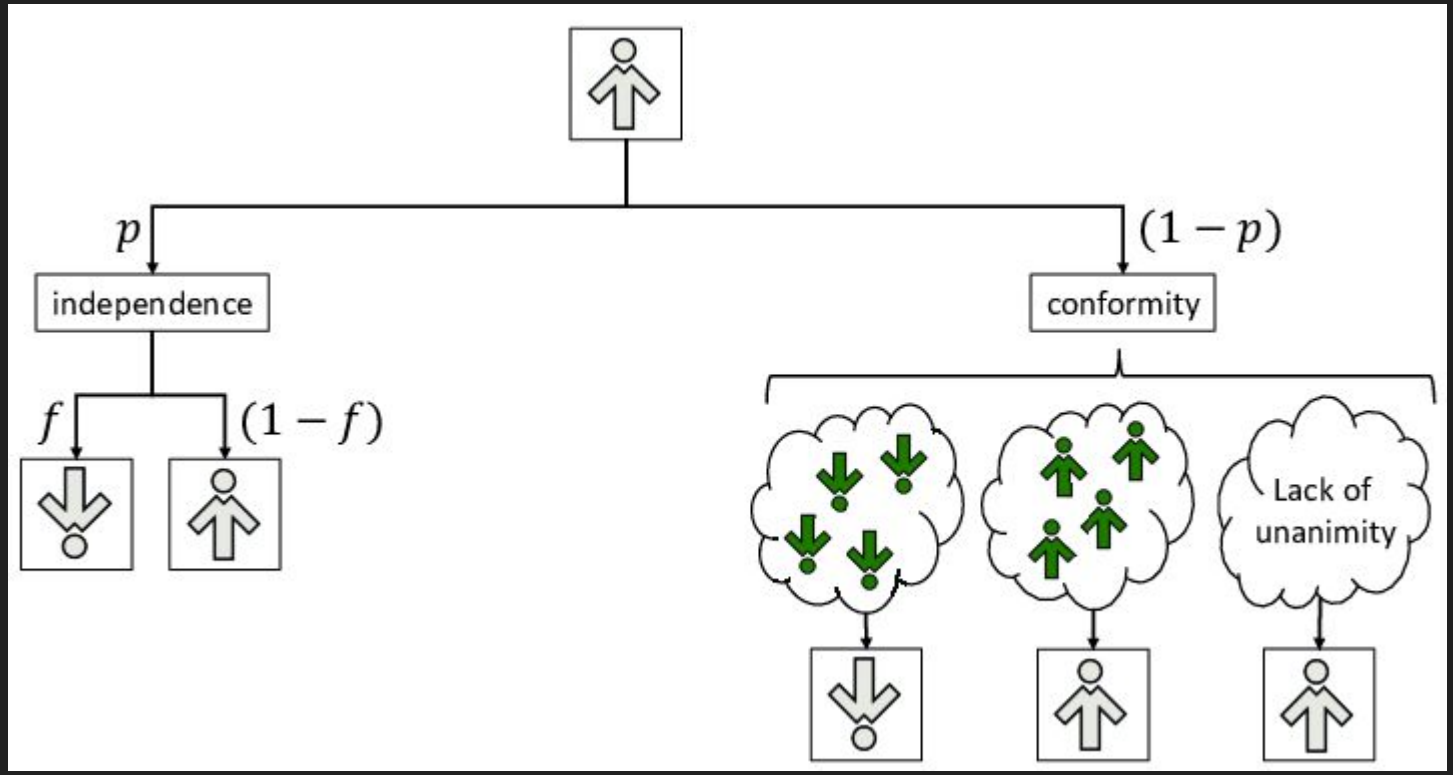
Q voter (affected by 1 neighbour)



Q voter Model
(affected by more than one neighbours)



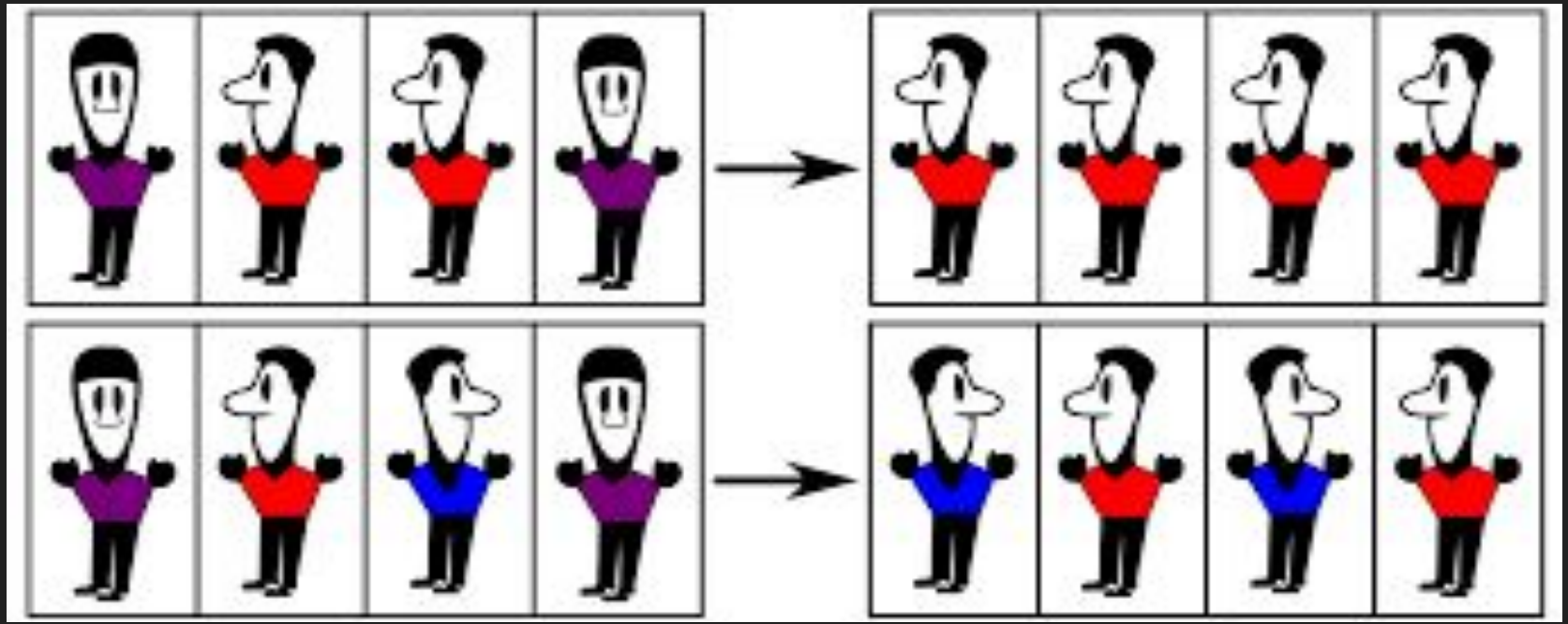
Q Voter Independence Model



Majority Voter Model

- Similar to Q voter.
- When not unanimous, opinion goes towards majority.
- All neighbours are chosen and tested for.

Sznajd Model

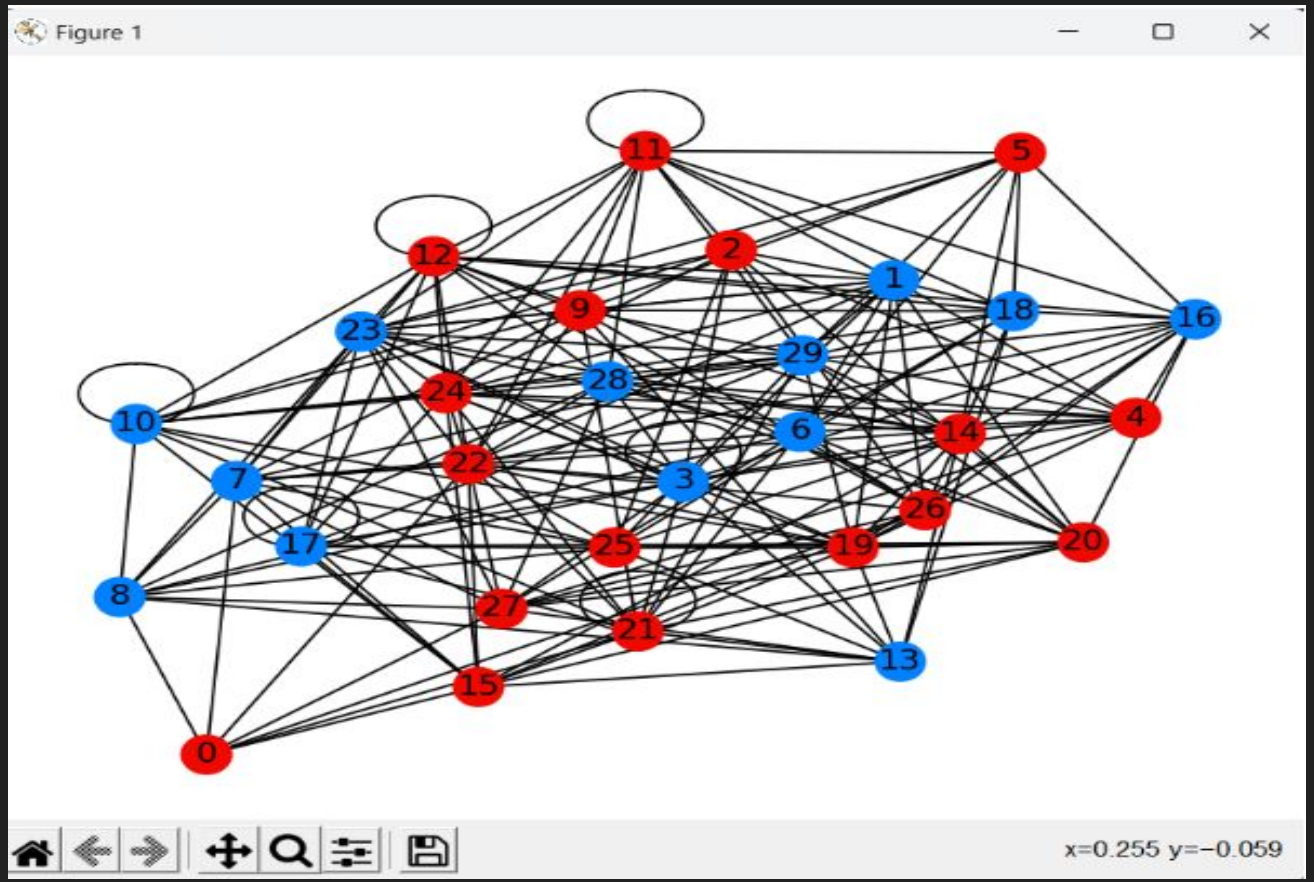


Random.py

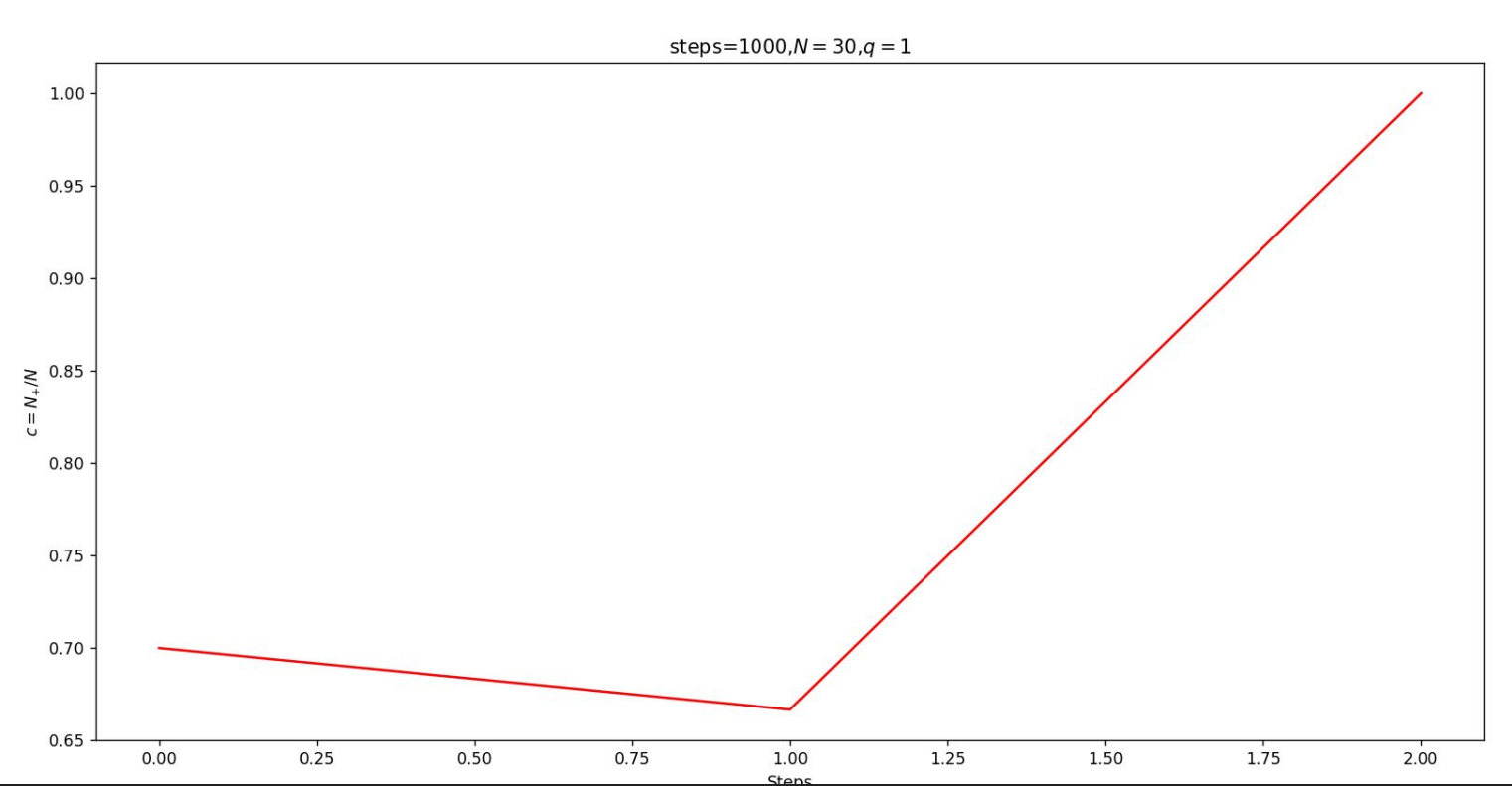
Random.py

Algorithms	Lobby (q)	epsilon	Nsteps	Viz step	Based on Majority Votes	Probability of Independence
Basic voter model	1	-	1000	100	-	-
Q-voter model	7	0.25	1000	100	-	-
Majority	-	-	1000	100	yes	-
Independence	-	-	1000	100	yes	Randomly generated(0.2)
Sznajd	-	-	1000	100	-	-

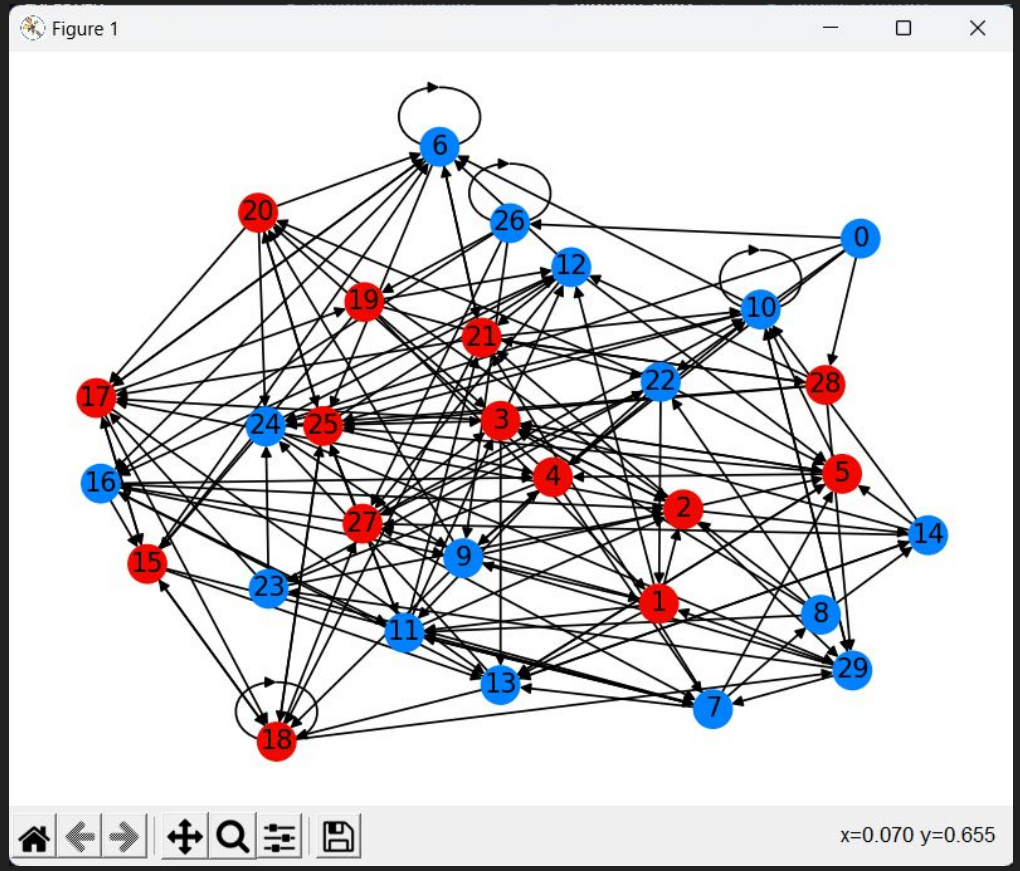
Random Network



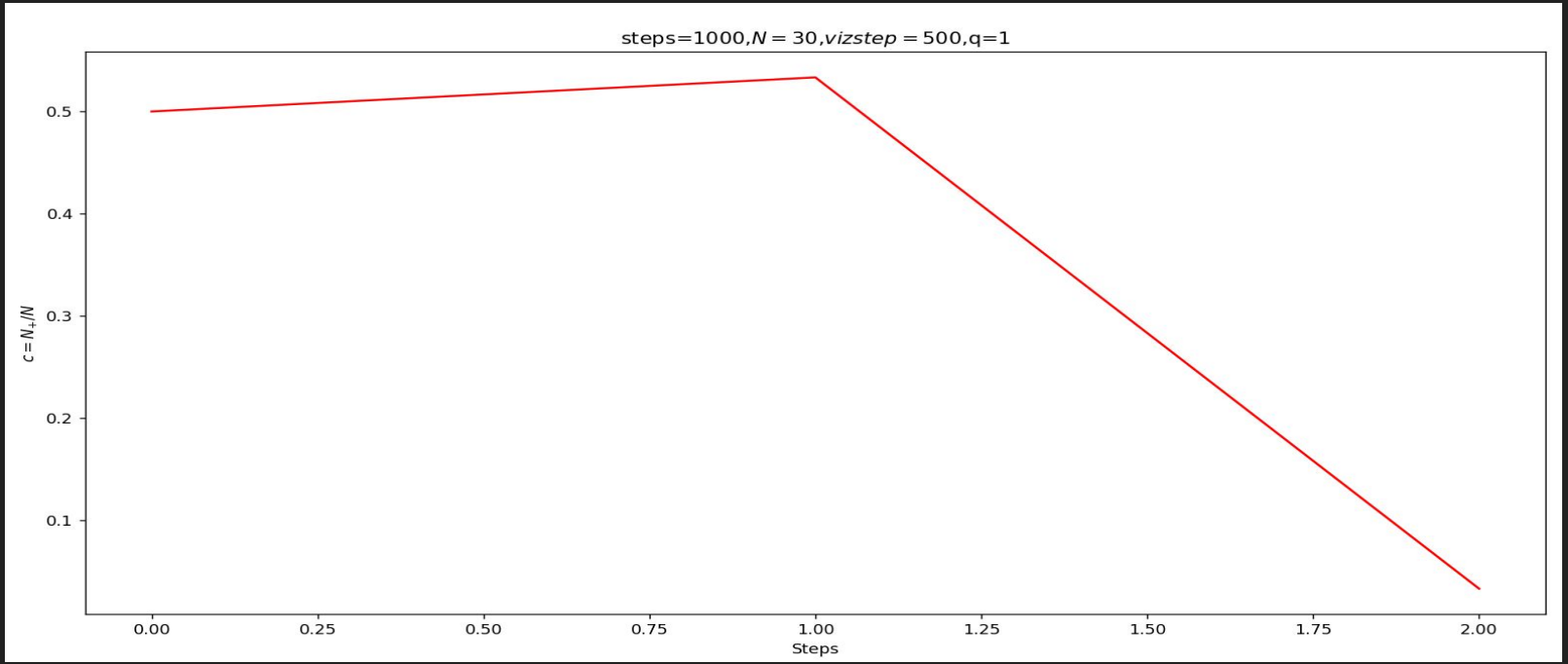
Classical Voter Model (Bifurcation Diagram)



Directed Graph (Instagram)



Bifurcation Diagram



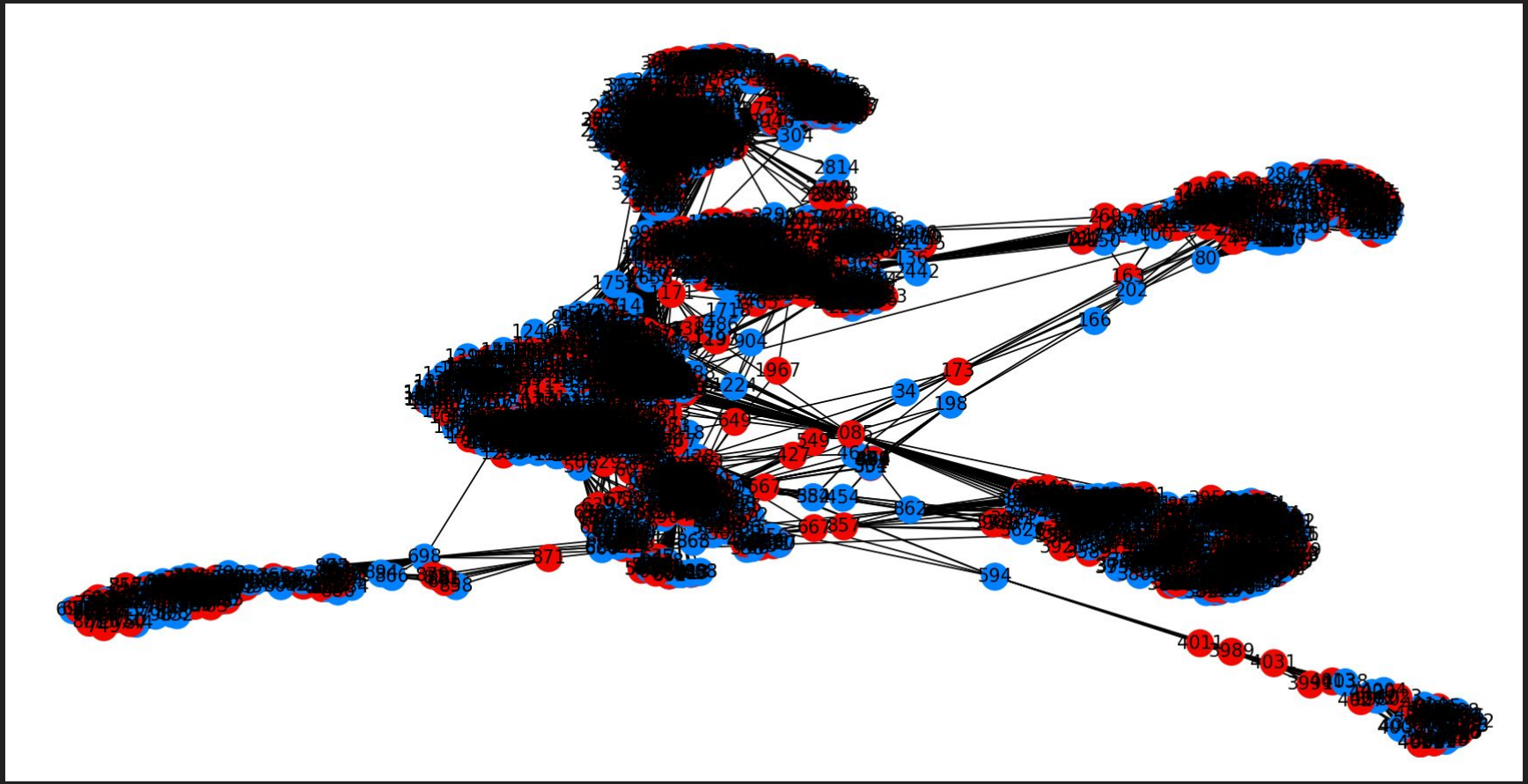
Real Life Network(Facebook)

Annotated Data(+1,-1)

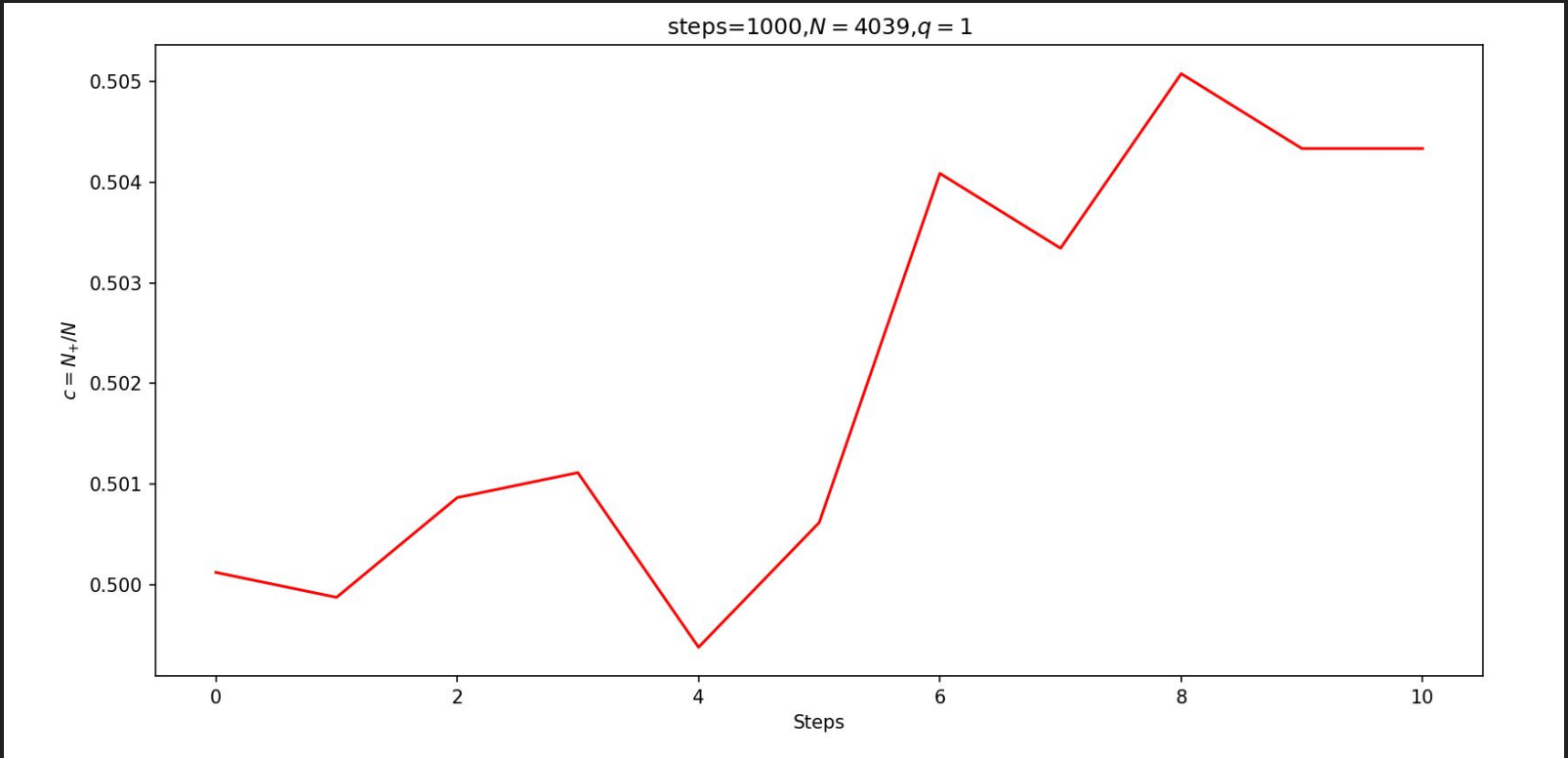
Specific.py

(Facebook Dataset)

Algorithms	lobby(q)	Nstep	Viz step	Sum of majority	p
Basic voter	1	1000	100	-	-
Q-voter model	7	1000	100	-	-
Majority	-	1000	100	yes	-
independence	-	1000	100	yes	-
Sznajd	-	1000	100	-	-



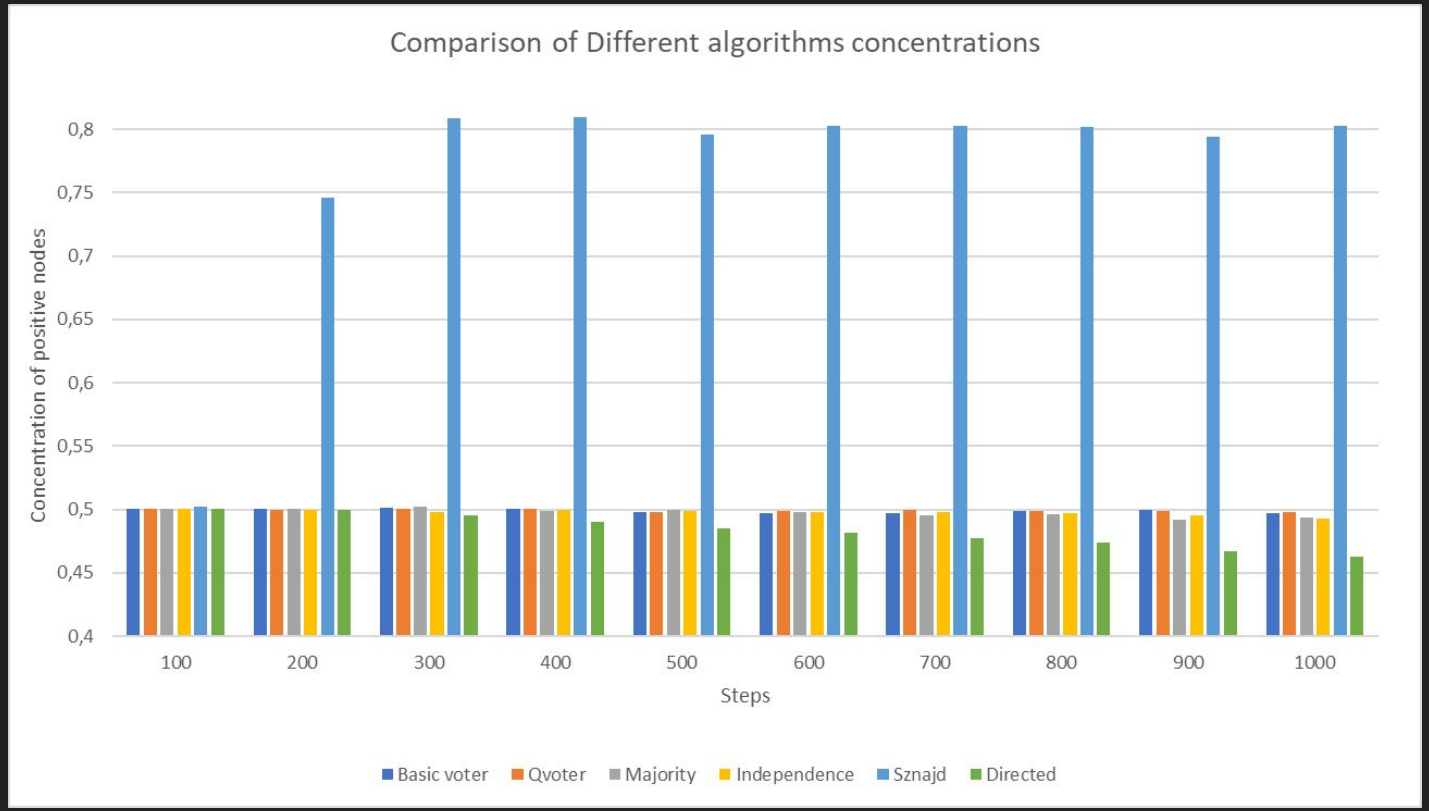
Classical Voter Model (Bifurcation Diagram)



Conclusions

1. Compared algorithms
2. Real world dataset

Conclusions



Future scope

1) All opinions 0 ,1,-1

We can deal with opinions from 0 to 10

Annotations self designed.Aims for the dataset with annotations or working with raw data

2) Communities