

# **Why Rumors Spread so Quickly in Social Networks**

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# Introduction

- Purpose
  - why rumors spread so quickly
- Models
  - samples of social network: Twitter & Orkut
  - PA graph created by other researchers
    - add new nodes with  $m$  neighbors
    - give preference to 'popular' nodes
  - RA graph and complete graph
- Method
  - start from a random node
  - push-and-pull protocol
- Result
  - faster upper bound
  - 'unpopular' nodes help a lot

# Negatives

- Flaws with model used
  - Input size
  - Information Dissemination
  - Neighbors chosen randomly from uniform distribution
  - Misalignment from Twitter Platform

# Negatives (cont'd)

- Flaws in paper writing
  - lack of explanations
    - how the preferences were given
    - fewer than  $m$  nodes
  - lack of mathematical derivations
    - but gave reference
    - nothing mentioned
- Flaws with English grammar
  - grammar errors
    - third-person singular
    - singular form vs plural form
    - wrong tense
  - sentence structure

# Positives

- Background and purpose are well defined
- Expounds upon previous work done in related areas
- Scalability is very favorable

# Positives (cont'd)

- significantly improved in algorithm
  - previous:  $O(\log(n)^2)$
  - now:  $O(\log(n)/\log(\log(n)))$
  - PA better than RA graphs and complete graphs
- good observation
  - may help future research
- have been cited 26 times
  - mostly in Theory of Computing

# Conclusions

- Novelty in social information diffusion
- Builds on previous principles in a logical manner
- Allows for expandability, mainly through model