Introduction

Contributions of Bi-directional GCN (Bi-GCN)

- Leverage GCN to detect rumors.
- Proposed Bi-GCN that
  - Not only considers the causal features of rumor propagation along relationship chains from top to down
  - But also obtains the structure features from rumor dispersion within communities through the bottom-up gathering.
- Concatenate the features of the source post with other posts at each GCN to make a comprehensive use of the information from the root feature.

Preliminaries

Notation

- $C = \{c_1, c_2, \cdots, c_m\}$: rumor detection dataset, m: num of events
  - $c_i = \{r_i, w_1^i, w_2^i, \cdots, w_{n_i-1}^i, G_i\}$: i-th event, n_i: num of posts in c_i
    - r_i: source post (root node)
    - w_j^i: j-th relevant responsive post
    - $G_i \rightarrow \langle V_i, E_i \rangle$: propagation structure
      - $V_i = \{r_i, w_1^i, \cdots, w_{n_i-1}^i\}$
      - $E_i = \{e_{st}^i \mid s, t = 0, \cdots, n_i - 1\}$, i.e., $w_1^i \rightarrow w_2^i$: e_{12}^i, $r_i \rightarrow w_1^i$: e_{01}^i