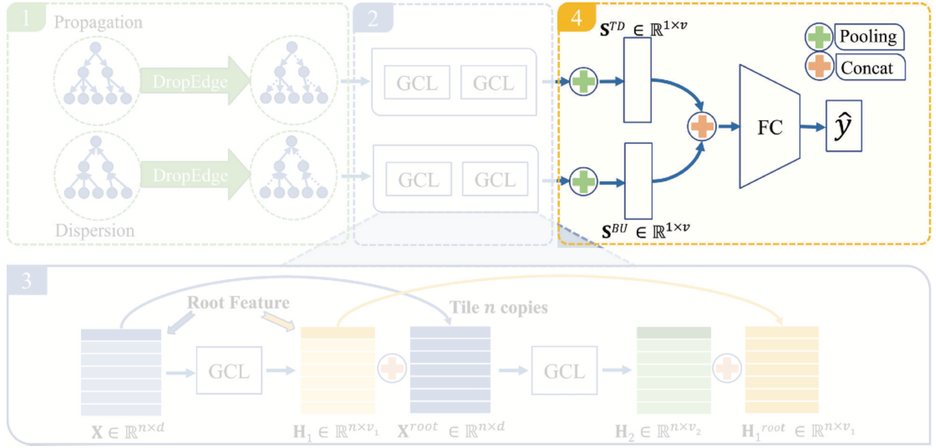
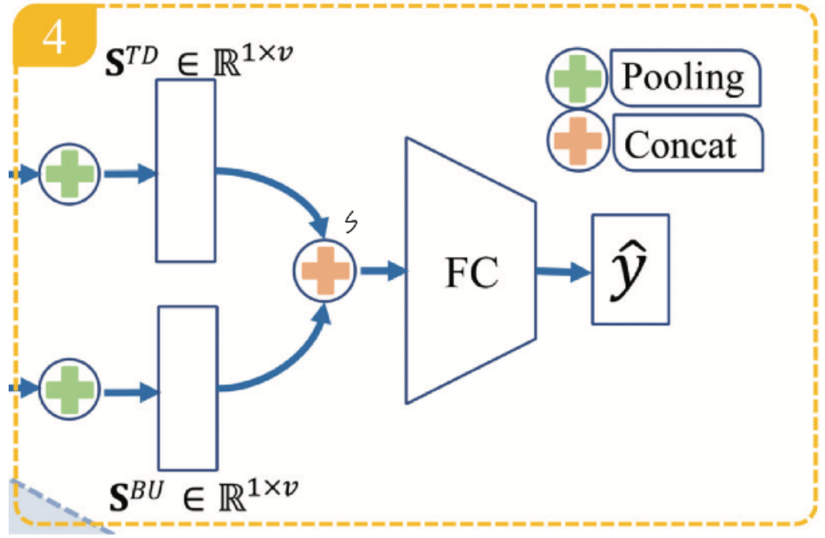
Methodology

Representations of Propagation and Dispersion for Rumor Classification

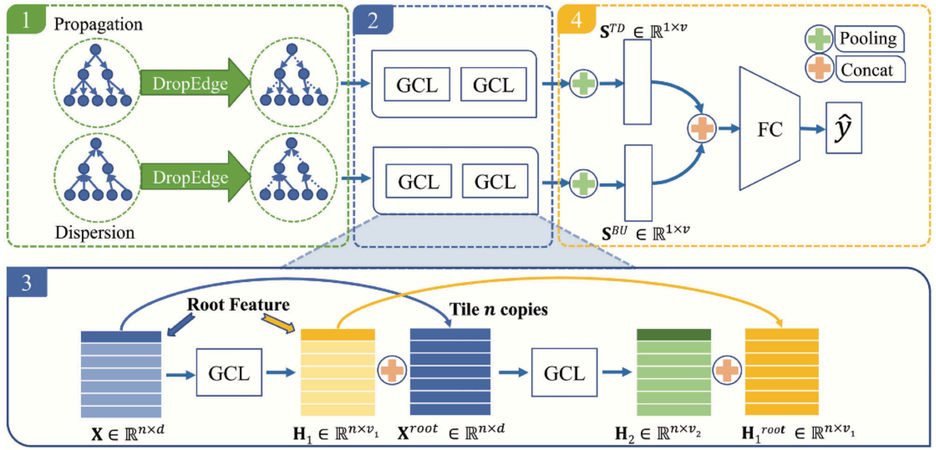


- Employ mean-pooling operators to aggregate information from these two sets of the node representations.
  - $\mathbf{S}^{TD} = \mathrm{MEAN}\left(\tilde{\mathbf{H}}_2^{TD}\right), \mathbf{S}^{BU} = \mathrm{MEAN}\left(\tilde{\mathbf{H}}_2^{BU}\right)$
- Then concatenate the representations of propagation and dispersion to merge the information as
  - $\mathbf{S} = \mathrm{concat}\left(\mathbf{S}^{TD}, \mathbf{S}^{BU}\right)$
- Finally the label of the event $\mathbf{y}$ is calculated via several fully connected layers and and softmax layer:
  - $\mathbf{y} = Softmax(FC(\mathbf{S}))$



Methodology

Optimizing



- Train all the parameters in the Bi-GCN model by minimizing the cross-entropy of the predictions and ground truth distributions, Y, over all events, C.
- L_2 regularizer is applied in the loss function over all model parameters.