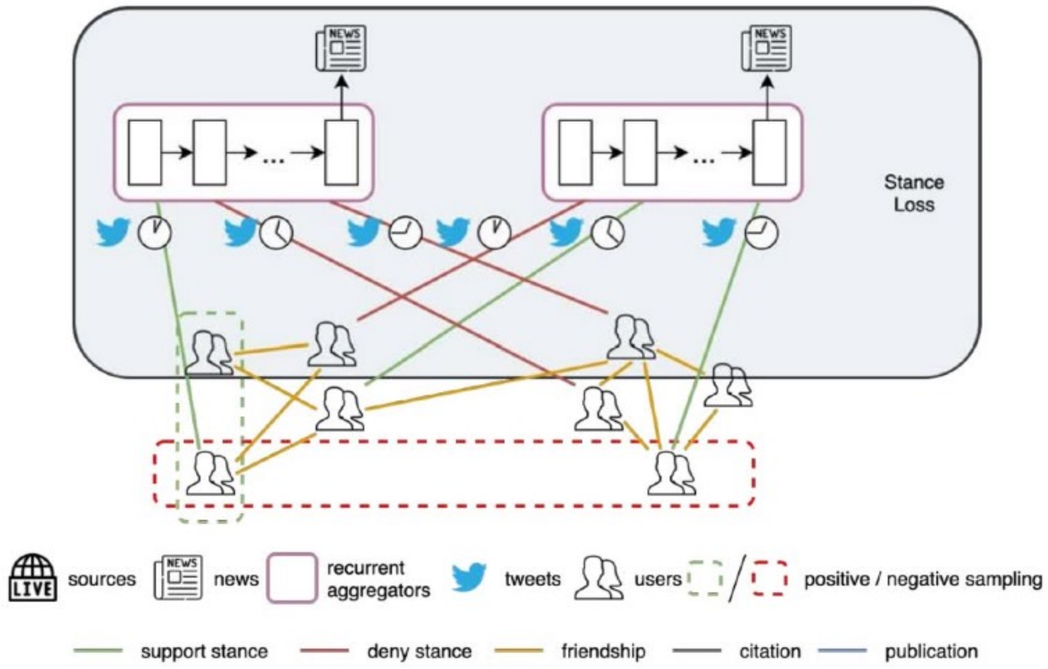
Methodology

FANG - Self-supervised Stance Loss

- Common stance → close representation
- Projection function from representation space to stance space c
  - User projection function: $\alpha_c(u) = \mathrm{A}_c z_u$
  - News article projection function: $\beta_c(a) = \mathrm{B}_c z_a$
- Stance loss function:
- $$\mathscr{L}_{\text{stance}} = -\sum_{u,a,c} y_{u,a,c} \log(f(u,a,c))$$
- Stance detector: $f(u,a,c) = softmax(\alpha_c(u)^\top \beta_c(a))$



Methodology

FANG - Supervised Fake News Loss

- Combine the representation of an article and its source: $v_a = (z_a, z_s)$
- Passed through a fully connected layer: $o_a = \mathrm{W} v_a + b$
- Cross-entropy loss:
  - $\mathscr{L}_{\text{news}} = \frac{1}{T} \sum_a \left\{ y_a \cdot \log\left(\sigma\left(o_a\right)\right) + \left(1 - y_a\right) \cdot \log\left(1 - \sigma\left(o_a\right)\right) \right\}$