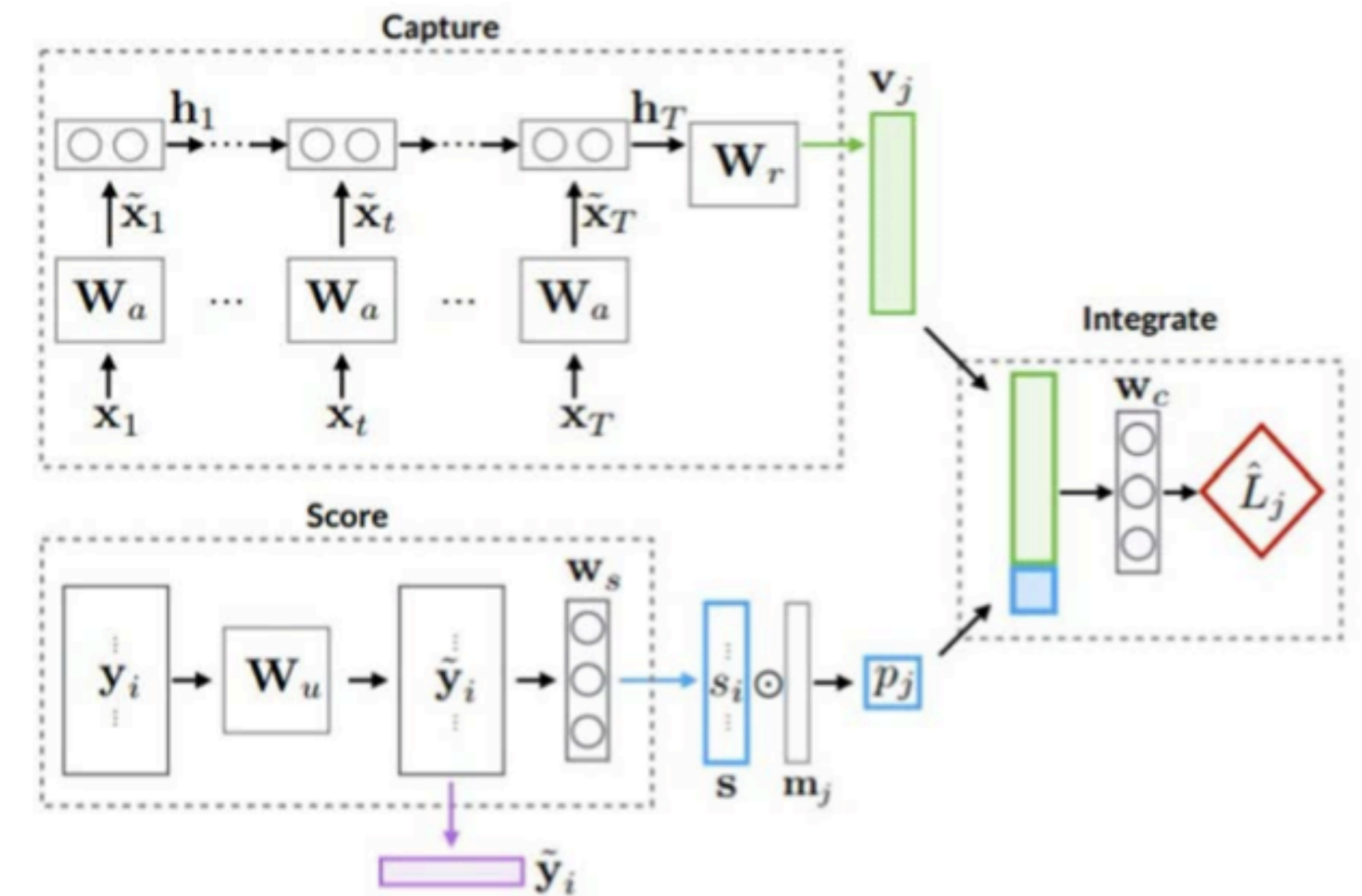


# Experiments

## Baselines

- SVM (content-only)
- CSI (Euclidean contextual)
  - Aggregate social engagements using LSTM
  - Models social context as a Euclidean object, not graph
- GCN (graph learning)
- FANG (proposed method)
- To verify the importance of modeling temporality by experimenting on two variants of CSI and FANG
  - CSI(-t), FANG(-t) without time in the engagement  $e$ 's representation  $x_e$



CSI (Ruchansky et al., 2017)

# Experiments

## Performance Comparison

| Model                             | Contextual | Temporal | Graphical | AUC           |
|-----------------------------------|------------|----------|-----------|---------------|
| Feature SVM                       |            |          |           | 0.5525        |
| CSI(- $t$ ) (without $time(e)$ )  | ✓          |          |           | 0.6678        |
| CSI                               | ✓          | ✓        |           | 0.6911        |
| GCN                               | ✓          |          | ✓         | 0.7064        |
| FANG(- $t$ ) (without $time(e)$ ) | ✓          |          | ✓         | 0.7179        |
| <b>FANG</b>                       | ✓          | ✓        | ✓         | <b>0.7518</b> |

- Improvement from [context modeling](#): 0.1153 for CSI(-t), 0.199 for FANG
- This demonstrates that considering [social context is helpful](#) for fake news detection.