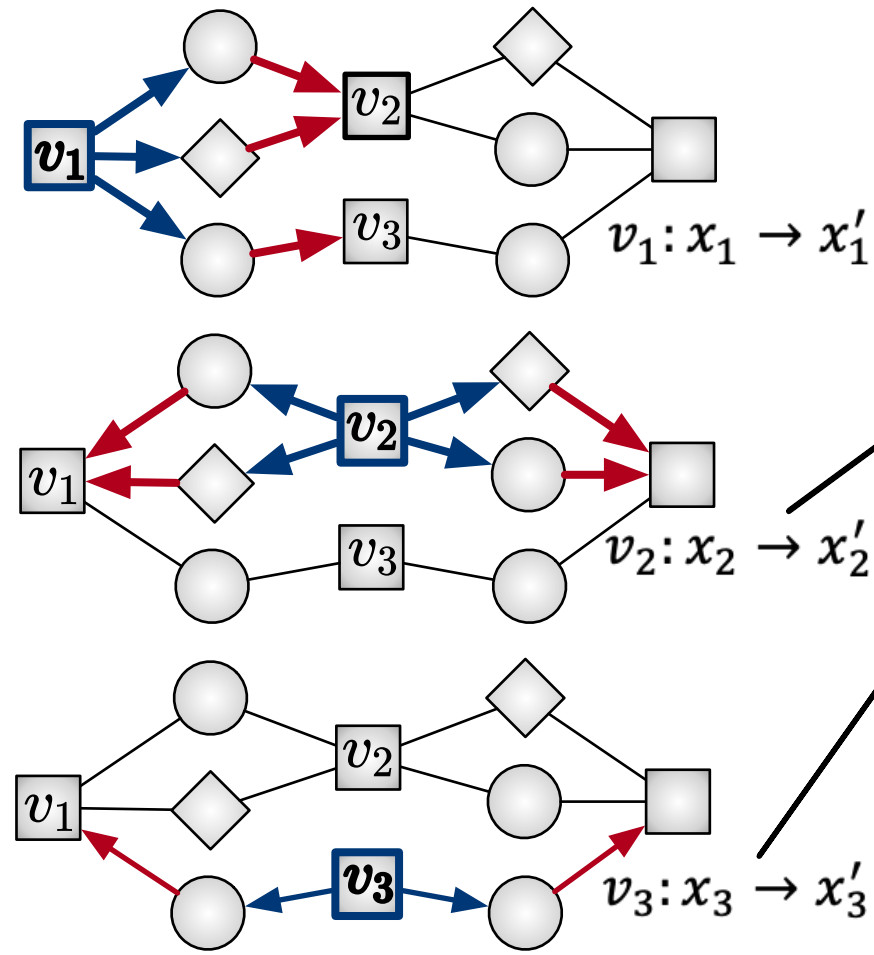


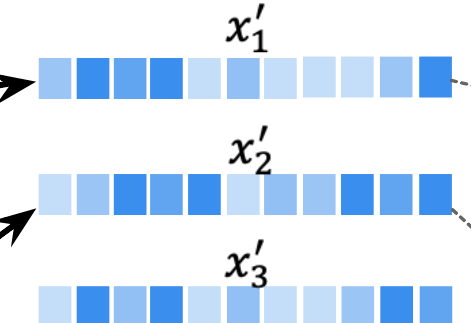
Node Feature Transformation



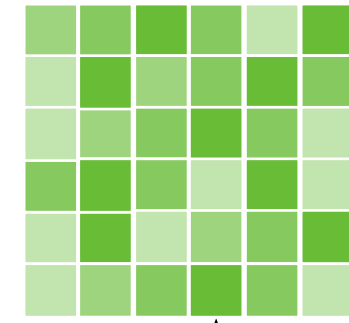
Node Type: Subject Author
 Paper(target node)

I. Meta Structure Generation

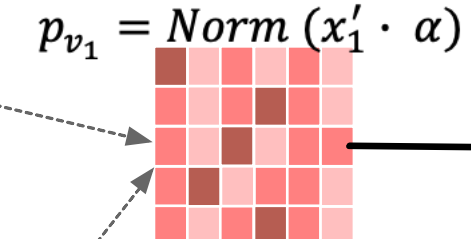
Transformed Node Features x'



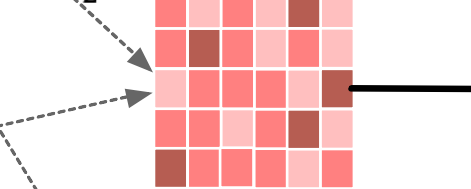
Meta Structure Parameters α



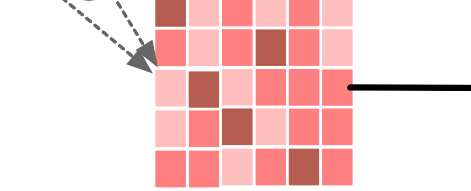
Probability of Meta Structure p



$$p_{v_1} = \text{Norm}(x'_1 \cdot \alpha)$$



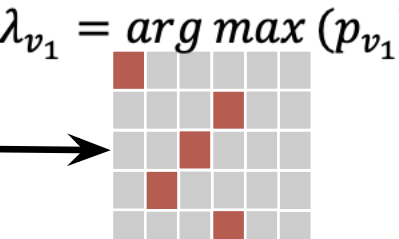
$$p_{v_2} = \text{Norm}(x'_2 \cdot \alpha)$$



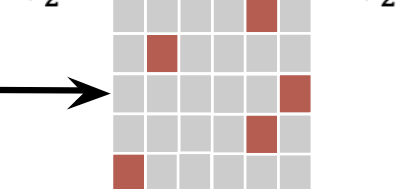
$$p_{v_3} = \text{Norm}(x'_3 \cdot \alpha)$$

II. Meta Structure Selection

Maximum of Probability λ



$$\lambda_{v_1} = \arg \max(p_{v_1})$$

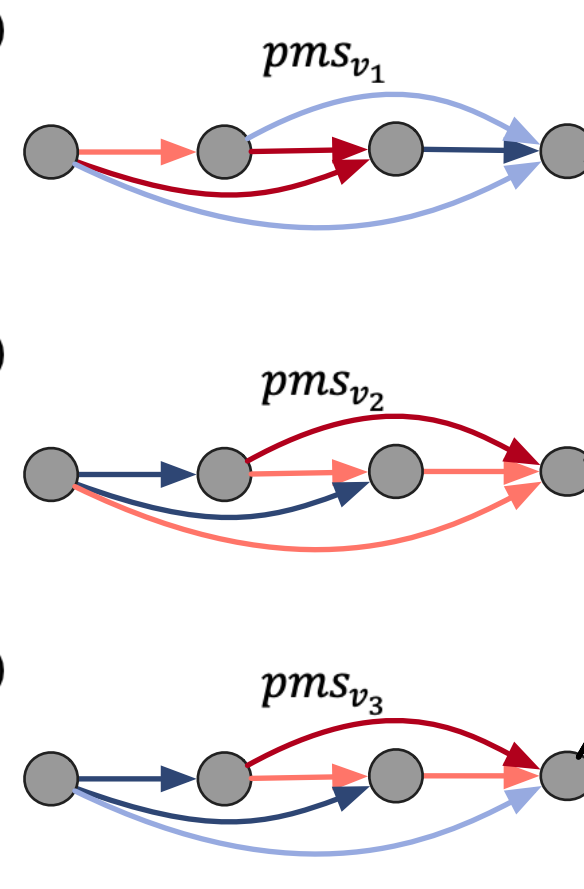


$$\lambda_{v_2} = \arg \max(p_{v_2})$$



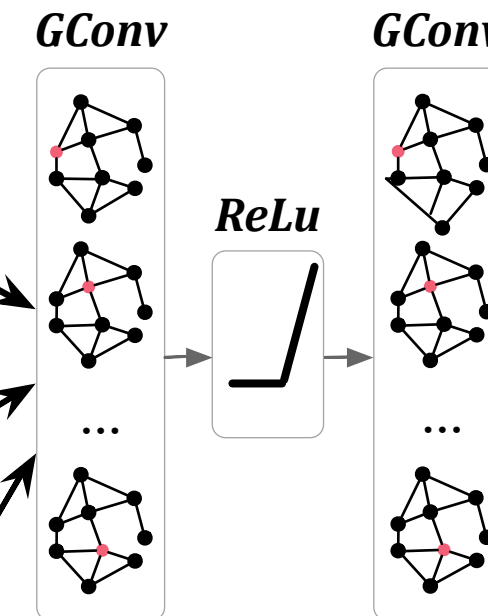
$$\lambda_{v_3} = \arg \max(p_{v_3})$$

Node-Centric Meta Structure \mathcal{PMS}

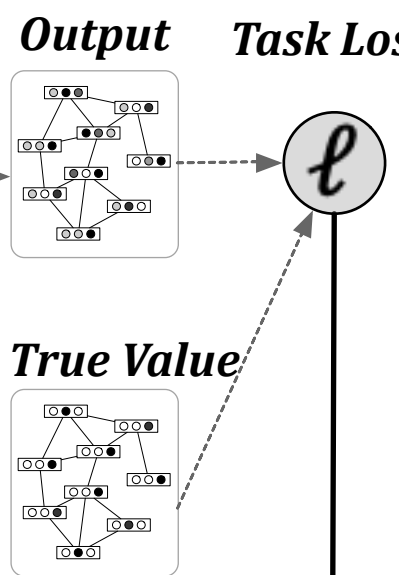


III. Model Training

GCN Model



Calculate Loss



Update GCN Parameters ω

Bi-level Optimization

Update Meta Structure Parameters α