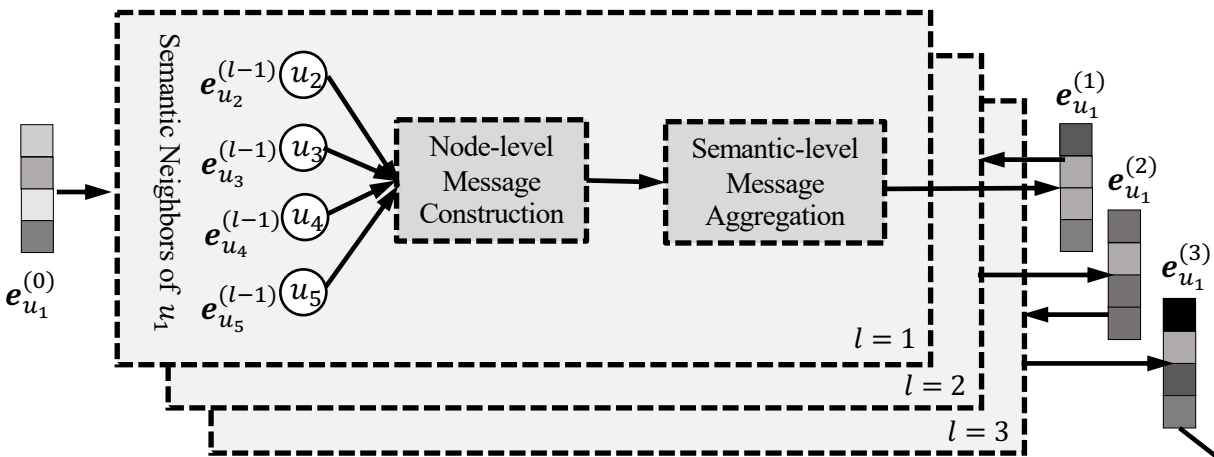
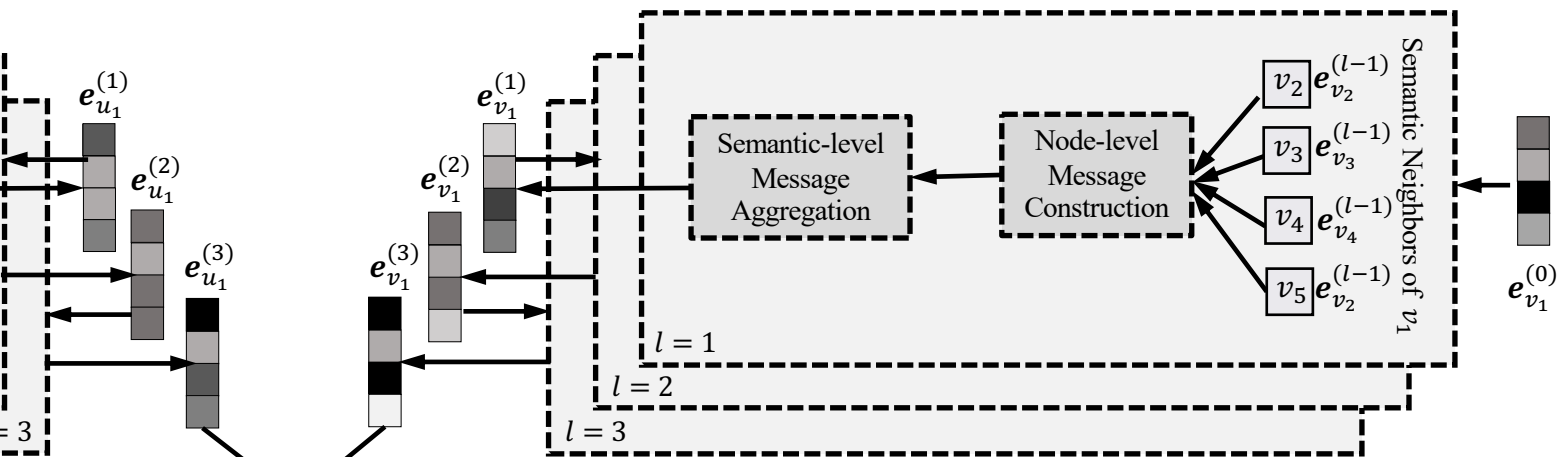


User Embedding Update



Item Embedding Update



Prediction

$\hat{y}_{u_1 v_1}^{(1)}$ $\hat{y}_{u_1 v_1}^{(2)}$... $\hat{y}_{u_1 v_1}^{(K)}$