Queryable-LMRec

The model has:

- 2 Inputs:
  - review
  - user id (i)
  - item id (j)
- 3 Outputs:
  - item prediction,
  - users prediction,
  - rating predictions

Loss function:

$$\mathcal{L} = \mathcal{L}_r + \mathcal{L}_i + \mathcal{L}_u$$

$$\mathcal{L}_r(y, \hat{y})$$

R-LMRec

$$z1_i = \text{leaky\_relu}(w_i^u \times W_1 + h_{CLS} \times W_2)$$
$$z2_j = \text{leaky\_relu}(w_j^i \times W_3)$$
$$\text{Return sigmoid}(< z1_j, z1_i >)$$

Item embedding w_j^i
User embedding w_i^u

$$\mathcal{L}_i(y, \hat{y})$$

$$\mathcal{L}_u(y, \hat{y})$$

I-LMRec

$W^i h_{CLS}$

Input 3: Item_id (j)

U-LMRec

$W^u h_{CLS}$

Input 2: User_id (i)

LM (BERT)

Input 1: Review

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