

(1)

① Partially view Alignment RL with noise robust  
Partially View Alignment RL with Noise robust

$$\{x^i\}_{i=1}^N = \{x_1^i, x_2^i, \dots, x_N^i\}_{i=1}^N$$

"Partially view aligned data."

$$\{x^i\}_{i=1}^N = \{x^i, u^i\}_{i=1}^N$$

align unaligned

Target Align: u utilizing A

Loss function:

$$L = \frac{1}{2N} \sum_{i=1}^N \{p L_i^{\text{pos}} + (1-p) L_i^{\text{neg}}\}$$

$$L_i^{\text{pos}} = d(a_i^1, a_i^2) = \|f_1(a_i^1) - f_2(a_i^2)\|$$

$$L_i^{\text{neg}} = \frac{1}{m} \max \left( m d^{\frac{1}{2}}(a_i^1, a_j^2) - d^{\frac{3}{2}}(a_i^1, a_j^2), 0 \right)$$

$$m = \frac{1}{N_p} \sum d(a_i^1, a_i^2) + \frac{1}{N_n} \sum d(a_i^1, a_j^2)$$

modified

Originally,  $L_i^{\text{ctr}} = \max \left( m - d(a_i^1, a_j^2), 0 \right)^2$