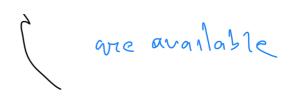
Learning to cluster.

Transfer learning task: Source data $S = \left\{ \mathcal{N}_{S}, \mathcal{N}_{S} \right\}$ torget denta

T = { xn, xn } {\X} \Z {\X} Across task tours during of \$75 = { >5 with domain shifts Inheled source data. S=SUA may not be equal to J { »\$, >5/ くなう = {x}

for cross task cases: (A & unlabel t



Learn the pair wase function Siamese network (
Ga(xi, yi) = yij

Applying a on the get

a (eti, retij)= ytij

infor x from xx = { xxi,i} + xi.

Solved by constrained clustering Alg.

Leonable clustering Objective

A pain of data rep, xg

There distanbution P = f(2p) } ?? Distribution. Q = f(2p)Privariete distanbution. $f(2p, 2q)^{+} = D_{KL}(P||Q) + D_{KL}(Q^{+}||P)$ Pair. $f(2p, 2q)^{+} = D_{KL}(P||Q) + D_{KL}(Q^{+}||P)$

dissimilar $L(xp, xq) = L_h \left(D_{KL}(p^*|l|Q), \sigma\right)$ thinge loss.

Lh $(e, \sigma) = max \left(0, \sigma - e\right)$ en force a margin.

Cr (xp, xg) € { 6, 1 }

& (np, ng) = 6 (xp, ng) 1/x1, nn) + + (1 - 6(xp, nn) f(xr, nn)

complete loss value; for D set with (P, 9)

L d = $\mathcal{L}(r, r) \in D$ Can be combined with other loss.