Kernelized Sorting (Poster ID: W48)

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Problem : Given two sets of observations $X = \{(x_i)\}_{i=1}^m$ and $Y = \{(y_i)\}_{i=1}^m$, sort y_is according to x_is without a *cross* domain comparison.

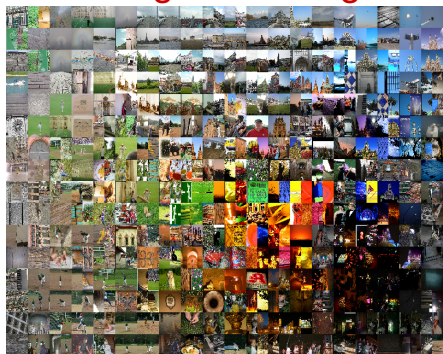**Solution :** Maximizing dependence by permuting y_is

$$\pi^* = \underset{\pi \in \Pi}{\mathrm{argmax}} \ \mathrm{trace}(HKH\pi L\pi^\top); \ \ K_{ij} = k(x_i, x_j), \ \ L_{ij} = l(y_i, y_j)$$

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