CORRESPONDENCE AS GROMOV-HAUSDORFF

$$d_{GH}(X,Y) < r \iff |d_X - d_Y| < 2r$$

$$d_{GH}(X,Y) = \frac{1}{2} \min_{\mathcal{R}} \operatorname{dist}(\mathcal{R}) \qquad \mathcal{R} = \text{correspondences}$$

$$= \frac{1}{2} \min_{\mathcal{R} \in X \times Y} \operatorname{dist}(\mathcal{R})$$

$$= \frac{1}{2} \min_{\mathcal{R} \in X \times Y} \max_{(x_1,y_1),(x_2,y_2) \in \mathcal{R}} |d_X - d_Y|$$

- RESTRICTING X, Y TO A FPS, ONLY $1 \to 1$ CORRESPONDENCES

$$d_{GH}^{p} = \frac{1}{2} \min_{\pi \in P_n} \max_{1 \le i,j \le n} |d_X - d_Y(y_{\pi i}, y_{\pi j})|$$

permutation

- PERMUTATION SET IS $O(n!)$ AND $d_{GH} \le d_{GH}^{p}$