Consider two 2D images of the same spatial size, $\boldsymbol{A_H}$ and $\boldsymbol{B_H}$. Both images can be represented as point sets, $\boldsymbol{A_H} = \{a_1, ..., a_{N_a}\}$ and $\boldsymbol{B_H} = \{b_1, ..., b_{N_b}\}$, respectively, where $\boldsymbol{A_H}, \boldsymbol{B_H} \subset \mathbb{R}^n$ such that $|\boldsymbol{A_H}|, |\boldsymbol{B_H}| < \infty$. From here, the distance between a point a and set of points, $\boldsymbol{B_H}$, is defined as:

$$d(a, \boldsymbol{B_H}) = \min_{b \in \boldsymbol{B_H}} \left(\sqrt{\sum_{b \in \boldsymbol{B_H}} (a - b)^2} \right) \tag{1}$$

and similarly, the distance between a point b and set of points, $\boldsymbol{A_H}$, is defined as:

$$d(b, \boldsymbol{A_H}) = \min_{a \in \boldsymbol{A_H}} \left(\sqrt{\sum_{a \in \boldsymbol{A_H}} (b - a)^2} \right) \tag{2}$$

D, can be described as:

$$D = \max \left\{ \frac{1}{|\boldsymbol{A_H}|} \sum_{a \in \boldsymbol{A_H}} d(a, \boldsymbol{B_H}),\ \frac{1}{|\boldsymbol{B_H}|} \sum_{b \in \boldsymbol{B_H}} d(b, \boldsymbol{A_H}) \right\} \tag{3}$$