DISTANCE MEASURES

Given two points A and B with coordinates \((X_{1A}, X_{2A},..., X_{nA})\) and \((X_{1B}, X_{2B}, ..., X_{nB})\).

Euclidean Distance (2-dim):

\[
ED_{AB} = \sqrt{(X_{1A} - X_{1B})^2 + (X_{2A} - X_{2B})^2}
\]

Euclidean Distance (n-dim):

\[
ED_{AB} = \sqrt{\sum_{i=1}^{S} (X_{iA} - X_{iB})^2}
\]

Squared Euclidean Distance:

\[
SED = ED_{AB}^2
\]

Mean Euclidean Distance:

\[
MED_{AB} = \frac{ED_{AB}}{\sqrt{S}}
\]

Absolute Distance:

\[
AD_{AB} = \sum_{i=1}^{S} |X_{iA} - X_{iB}|
\]

Mean Absolute Distance:

\[
MAD_{AB} = \frac{AD_{AB}}{S}
\]