

$$r_{ij} = \frac{\sum_{k=1}^p (x_{ik} - \bar{x}_i) (x_{jk} - \bar{x}_j)}{\sqrt{\left[ \sum_{k=1}^p (x_{ik} - \bar{x}_i)^2 \right] \left[ \sum_{k=1}^p (x_{jk} - \bar{x}_j)^2 \right]}}$$

向量标准化

$$\longleftrightarrow \cos(\theta) = \frac{\sum_{k=1}^p x_{ik} x_{jk}}{\sqrt{\sum_{k=1}^p x_{ik}^2 \sum_{k=1}^p x_{jk}^2}}$$