

BY-HAND GINI INDEX

$$G = \frac{\sum_{i=1}^N \sum_{j=1}^N |x_i - x_j|}{2N(N-1) \bar{x}}$$

$$X = [1200, 600, 5000]$$

CALCULATE NOMINATOR

$$\begin{array}{c|ccc} & 1200 & 600 & 5000 \\ \hline 1200 & 0 & 600 & 3800 \\ 600 & 600 & 0 & 4400 \\ 5000 & 3800 & 4400 & 0 \end{array}$$

$$\sum \sum_{i=1}^N \sum_{j=1}^N |x_i - x_j| = 17600$$

sum all the matrix

CALCULATE DENOMINATOR

$$N = 3$$

$$\bar{x} = \frac{\sum x_i}{N} = \frac{x_1 + x_2 + x_3}{3} = \frac{1200 + 600 + 5000}{3} = 2266,667$$

$$2N(N-1) \bar{x} = 2 * 3 * (3-1) * 2266,667 = 27200,004$$

CALCULATE GINI

$$G = \frac{\sum_{i=1}^N \sum_{j=1}^N |x_i - x_j|}{2N(N-1) \bar{x}} = \frac{17600}{27200,004} = 0,6470$$