

# Tarea 6: Similaridad coseno

Angel Angel Joto Hernandez

	$V_1$	$V_2$	$V_3$
Características	CIC	ESCOM	ESIA
estacionamientos	2	1	3
pozo de iluminación	1	0	0
niveles	3	3	4
patios centrales	0	1	0

$$V_1 = [2, 1, 3, 0]$$

$$V_2 = [1, 0, 3, 1]$$

$$V_3 = [3, 0, 4, 0]$$

$$V_1 \cdot V_2 = [2, 0, 9, 0] = 11$$

$$V_1 \cdot V_3 = [6, 0, 12, 0] = 18$$

$$V_2 \cdot V_3 = [3, 0, 12, 0] = 15$$

$$\text{similitud}(A, B) = \cos \theta = \frac{\vec{A} \cdot \vec{B}}{\|\vec{A}\| \|\vec{B}\|} = \frac{\sum_{i=1}^n A_i B_i}{\sqrt{\sum_{i=1}^n A_i^2} \sqrt{\sum_{i=1}^n B_i^2}}$$

$$\text{similitud}(V_1, V_2) = \cos \theta = \frac{11}{(3.741)(3.316)}$$

$$\cos \theta = 0.886$$

$$V_1 = \sqrt{2^2 + 1^2 + 3^2 + 0^2} = 3.741$$

$$V_2 = \sqrt{1^2 + 0^2 + 3^2 + 1^2} = 3.316$$

$$V_3 = \sqrt{3^2 + 0^2 + 4^2 + 0^2} = 5$$

$$\text{similitud}(V_1, V_3) = \cos \theta = \frac{18}{(3.741)(5)}$$

$$\cos \theta = 0.962$$

$$\text{similitud}(V_2, V_3) = \cos \theta = \frac{15}{(3.316)(5)}$$

$$\cos \theta = 0.904$$