1

1.1

Calcula las distribuciones marginales P(x) y P(y)

Ejemplo de Formula basado en x1:

P(x1) = P (x1 ∩ (y1 ∪ y2 ∪ y3)­­) = (Px1 ∩ y1) + (Px1 ∩ y2) + (Px1 ∩ y3)

P(x1) = (.1) + (.05) + (.01) = .16

P(x2) = (.05) + (.1) + (.02) = .17

P(x3) = (.03) + (.05) + (.03) = .11

P(x4) = (.05) + (.07) + (.1) = .22

P(x5) = (.04) + (.2) + (.1) = .34

Ejemplo de Formula basado en y1:

P(y1) = P (y1 ∩ (x1 ∪ x2 ∪ x3 ∪ x4 ∪ x5)) = (Py1 ∩ x1) + (Py1 ∩ x2) + (Py1 ∩ x3) + (Py1 ∩ x4) + (Py1 ∩ x5)

P(y1) = ( .01) + (.02) + (.03) + (.1) + (.1) = .26

P(y2) = (.05) + (.2) + (.05) + (.07) + (.2) = .47

P(y3) = (.1) + (.05) + (.03) + (.05) + (.04) = .27

1.2

P (x | y= y1) = P(x1 ∩ y1)/ P(y1) … P(y1) = .27

(x1 ∩ y1) = .01/.26 = .0384

(x2 ∩ y1) = .02/.26 = .0769

(x3 ∩ y1) = .03/.26 = .1153

(x4 ∩ y1) = .1/.26 = .3846

(x5 ∩ y1) = .1/.26 = .3846

P (y | x= x1) = P(y1 ∩ x1)/ P(x1) … P(x1) = .11

(y1 ∩ x1) = .03/.11 = .2727

(y2 ∩ x1) = .05/.11 = .4545

(y3 ∩ x1) = .03/.11 = .2727

2

|  |  |  |  |
| --- | --- | --- | --- |
|  | P | U | NU |
| H | 0.55 | 0.05 | 0.5 |
| M | 0.45 | 0.15 | 0.3 |
| TOTAL | 1 | 0.2 | 0.8 |

|  |  |
| --- | --- |
| P | Poblacion |
| U | Estudions Universitarios |
| UN | No Estudios Universitarios |

2.1

P(U|M) = P( U ∩ M)/M .05/.55 = .0909\*

2.2

P(UH|U) = .15/.20 = .75