

Fuzzy Data Mining

Rule 1:

if ($x_1 \geq 0.59$ && $x_1 \leq 0.65$) && ($x_2 \geq 0.52$ && $x_2 \leq 0.86$) &&
 ($x_3 \geq 0.19$ && $x_3 \leq 0.28$) && ($x_4 \geq 0.04$ && $x_4 \leq 0.24$) **THEN** Class 1

Rule 2:

if ($x_1 \geq 0.69$ && $x_1 \leq 0.78$) && ($x_2 \geq 0.52$ && $x_2 \leq 0.68$) &&
 ($x_3 \geq 0.43$ && $x_3 \leq 0.67$) && ($x_4 \geq 0.40$ && $x_4 \leq 0.56$) **THEN** Class 2

Rule 3:

if ($x_1 \geq 0.70$ && $x_1 \leq 0.85$) && ($x_2 \geq 0.57$ && $x_2 \leq 0.77$) &&
 ($x_3 \geq 0.70$ && $x_3 \leq 0.86$) && ($x_4 \geq 0.72$ && $x_4 \leq 1.0$) **THEN** Class 3
ELSE Class 0

Let's take input data from table. Results:

x1: 0.63	x2: 0.8	x3: 0.19	x4: 0.12	Class: 1
x1: 0.57	x2: 0.52	x3: 0.19	x4: 0.12	Class: 0
x1: 0.56	x2: 0.73	x3: 0.19	x4: 0.08	Class: 0
x1: 0.63	x2: 0.8	x3: 0.23	x4: 0.24	Class: 1
x1: 0.65	x2: 0.86	x3: 0.28	x4: 0.16	Class: 1
x1: 0.61	x2: 0.68	x3: 0.2	x4: 0.12	Class: 1
x1: 0.65	x2: 0.86	x3: 0.23	x4: 0.08	Class: 1
x1: 0.58	x2: 0.73	x3: 0.2	x4: 0.08	Class: 0
x1: 0.67	x2: 0.84	x3: 0.22	x4: 0.08	Class: 0
x1: 0.63	x2: 0.75	x3: 0.2	x4: 0.08	Class: 1
x1: 0.62	x2: 0.7	x3: 0.22	x4: 0.04	Class: 1
x1: 0.56	x2: 0.68	x3: 0.19	x4: 0.08	Class: 0
x1: 0.65	x2: 0.77	x3: 0.22	x4: 0.08	Class: 1
x1: 0.63	x2: 0.8	x3: 0.19	x4: 0.12	Class: 1
x1: 0.57	x2: 0.52	x3: 0.19	x4: 0.12	Class: 0
x1: 0.56	x2: 0.73	x3: 0.19	x4: 0.08	Class: 0
x1: 0.63	x2: 0.8	x3: 0.23	x4: 0.24	Class: 1
x1: 0.65	x2: 0.86	x3: 0.28	x4: 0.16	Class: 1
x1: 0.61	x2: 0.68	x3: 0.2	x4: 0.12	Class: 1
x1: 0.65	x2: 0.86	x3: 0.23	x4: 0.08	Class: 1
x1: 0.58	x2: 0.73	x3: 0.2	x4: 0.08	Class: 0
x1: 0.67	x2: 0.84	x3: 0.22	x4: 0.08	Class: 0
x1: 0.63	x2: 0.75	x3: 0.2	x4: 0.08	Class: 1
x1: 0.7	x2: 0.59	x3: 0.64	x4: 0.48	Class: 2
x1: 0.77	x2: 0.68	x3: 0.67	x4: 0.56	Class: 2
x1: 0.73	x2: 0.59	x3: 0.58	x4: 0.48	Class: 2
x1: 0.63	x2: 0.52	x3: 0.48	x4: 0.4	Class: 0
x1: 0.71	x2: 0.61	x3: 0.61	x4: 0.52	Class: 2
x1: 0.72	x2: 0.68	x3: 0.61	x4: 0.48	Class: 2
x1: 0.72	x2: 0.66	x3: 0.61	x4: 0.52	Class: 2
x1: 0.78	x2: 0.66	x3: 0.62	x4: 0.52	Class: 2
x1: 0.65	x2: 0.57	x3: 0.43	x4: 0.44	Class: 0
x1: 0.72	x2: 0.64	x3: 0.59	x4: 0.52	Class: 2
x1: 0.8	x2: 0.52	x3: 0.64	x4: 0.52	Class: 0
x1: 0.71	x2: 0.68	x3: 0.59	x4: 0.52	Class: 2
x1: 0.7	x2: 0.57	x3: 0.58	x4: 0.52	Class: 2
x1: 0.7	x2: 0.59	x3: 0.64	x4: 0.48	Class: 2
x1: 0.77	x2: 0.68	x3: 0.67	x4: 0.56	Class: 2
x1: 0.73	x2: 0.59	x3: 0.58	x4: 0.48	Class: 2
x1: 0.63	x2: 0.52	x3: 0.48	x4: 0.4	Class: 0
x1: 0.71	x2: 0.61	x3: 0.61	x4: 0.52	Class: 2
x1: 0.72	x2: 0.68	x3: 0.61	x4: 0.48	Class: 2
x1: 0.72	x2: 0.66	x3: 0.61	x4: 0.52	Class: 2

x1: 0.78	x2: 0.66	x3: 0.62	x4: 0.52	Class: 2
x1: 0.65	x2: 0.57	x3: 0.43	x4: 0.44	Class: 0
x1: 0.72	x2: 0.64	x3: 0.59	x4: 0.52	Class: 2
x1: 0.85	x2: 0.7	x3: 0.81	x4: 0.96	Class: 3
x1: 0.87	x2: 0.7	x3: 0.74	x4: 0.92	Class: 0
x1: 0.73	x2: 0.61	x3: 0.74	x4: 0.76	Class: 3
x1: 0.86	x2: 0.73	x3: 0.86	x4: 0.92	Class: 0
x1: 0.85	x2: 0.75	x3: 0.83	x4: 1.0	Class: 3
x1: 0.85	x2: 0.68	x3: 0.75	x4: 0.92	Class: 3
x1: 0.8	x2: 0.57	x3: 0.72	x4: 0.76	Class: 3
x1: 0.82	x2: 0.68	x3: 0.75	x4: 0.8	Class: 3
x1: 0.78	x2: 0.77	x3: 0.78	x4: 0.92	Class: 3
x1: 0.75	x2: 0.68	x3: 0.74	x4: 0.72	Class: 3
x1: 0.81	x2: 0.7	x3: 0.8	x4: 0.72	Class: 3
x1: 0.76	x2: 0.68	x3: 0.7	x4: 0.72	Class: 3
x1: 0.87	x2: 0.7	x3: 0.78	x4: 0.84	Class: 0
x1: 0.85	x2: 0.7	x3: 0.81	x4: 0.96	Class: 3
x1: 0.87	x2: 0.7	x3: 0.74	x4: 0.92	Class: 0
x1: 0.73	x2: 0.61	x3: 0.74	x4: 0.76	Class: 3
x1: 0.86	x2: 0.73	x3: 0.86	x4: 0.92	Class: 0
x1: 0.85	x2: 0.75	x3: 0.83	x4: 1.0	Class: 3
x1: 0.85	x2: 0.68	x3: 0.75	x4: 0.92	Class: 3
x1: 0.8	x2: 0.57	x3: 0.72	x4: 0.76	Class: 3
x1: 0.82	x2: 0.68	x3: 0.75	x4: 0.8	Class: 3
x1: 0.78	x2: 0.77	x3: 0.78	x4: 0.92	Class: 3
x1: 0.75	x2: 0.68	x3: 0.74	x4: 0.72	Class: 3

True percent: 72.46%

Let's try to input data from keyboard:

0,77 0,68 0,67 0,56	x1: 0.77	x2: 0.68	x3: 0.67	x4: 0.56	Class: 2
0,85 0,68 0,75 0,92	x1: 0.85	x2: 0.68	x3: 0.75	x4: 0.92	Class: 3
0,65 0,77 0,22 0,08	x1: 0.65	x2: 0.77	x3: 0.22	x4: 0.08	Class: 1
0,1 0,9 0,5 0,7	x1: 0.1	x2: 0.9	x3: 0.5	x4: 0.7	Class: 0