

Contemporary Data Processing Technology (CCOD)
Lab 7(October 15,2016)
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Table of rules:

| If x1 | AND x2 | AND x3 | AND x4 | THEN |
|------------|--------|------------|------------|------------|
| Medium | Large | Small | Very Small | Setosa |
| Large | Large | Medium | Medium | Versicolor |
| Very Large | Large | Very Large | Very Large | Verginica |

Membership Function for Very Small: $e^{\frac{-(x-0.143667)^2}{0.00385}}$

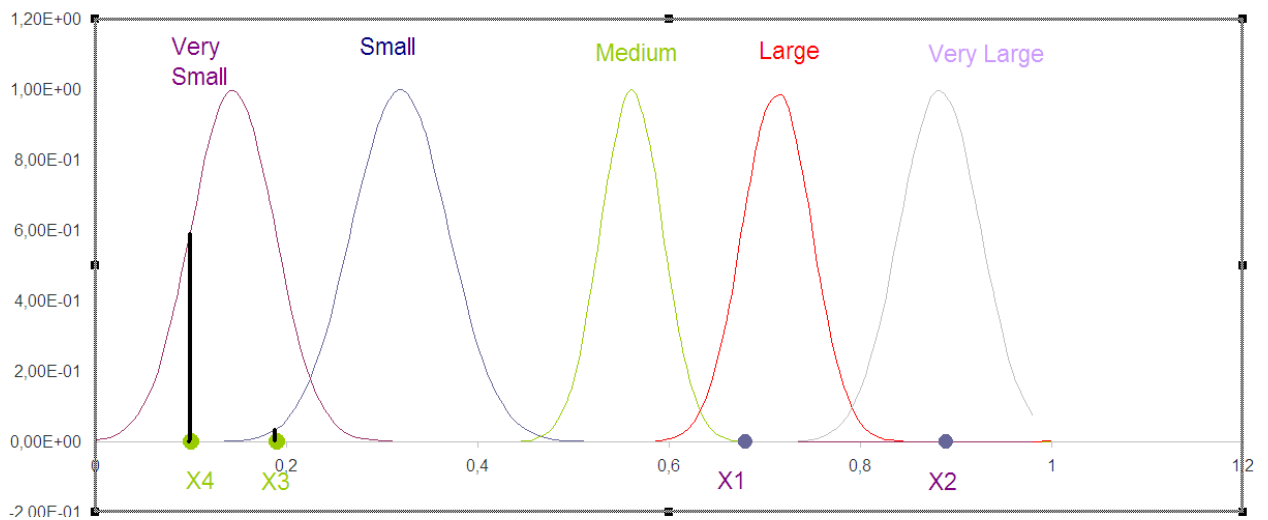
Membership Function for Small: $e^{\frac{-(x-0.318571)^2}{0.005069}}$

Membership Function for Medium: $e^{\frac{-(x-0.560488)^2}{0.002102}}$

Membership Function for Large: $e^{\frac{-(x-0.712558)^2}{0.002626}}$

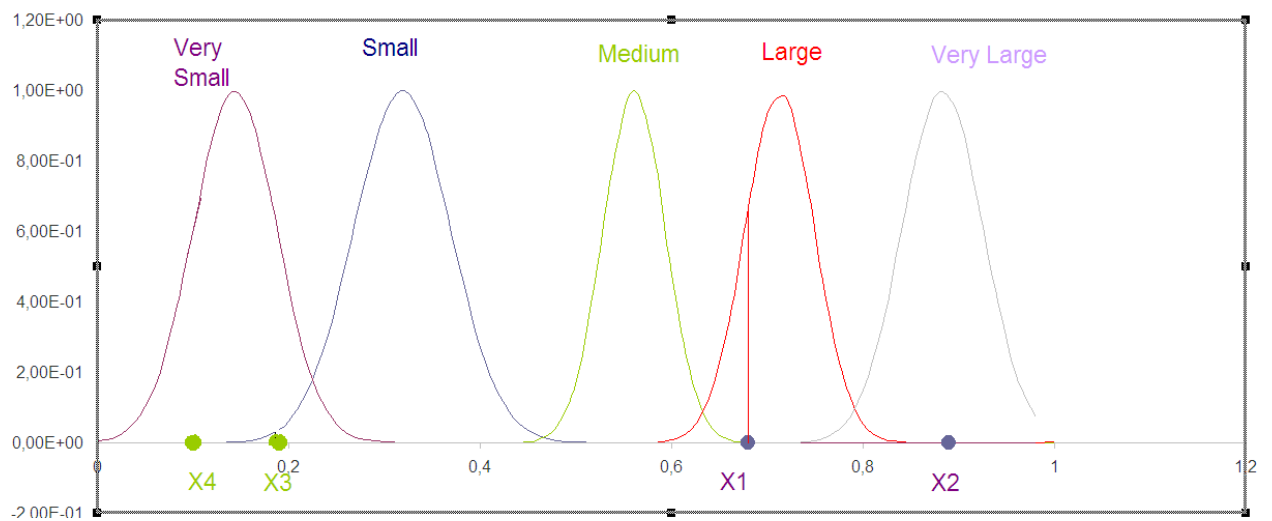
Membership Function for Very Large: $e^{\frac{-(x-0.88275)^2}{0.003615}}$

R1:If x1 Medium AND x2 Large AND x3 Small AND Very Small:



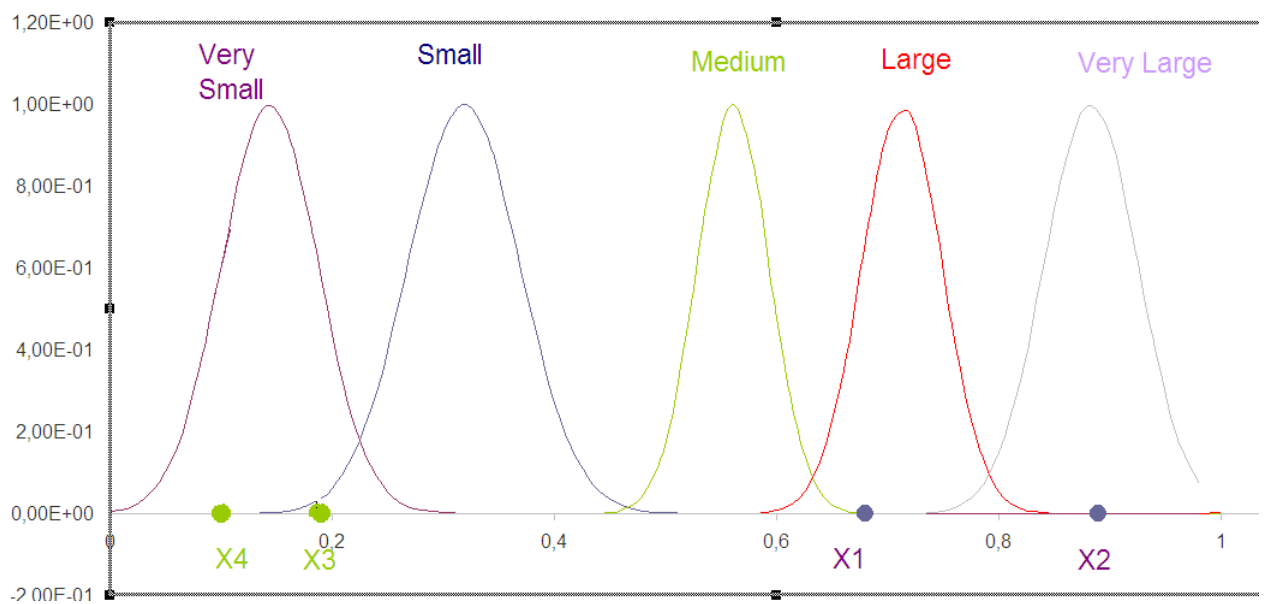
$$M = 0.00112004586101499 \times 0.000006206659334305133 \times 0.038355031311250884 \times 0.9330514554248434 = 2.4878354425739805e-10$$

R2: If x1 Large AND x2 Large AND x3 Medium AND x4 Medium



$$M = 0.6678671878247131 \times 3.704864687406529e-23 \times 4.396996206452082e-29 \times 7.326088537904984e-34 = 7.970594440646806e-85$$

R3 If x1 Very Large AND x2 Large AND x3 Very Large x4 Very Large:



$$M = 0.000011518188217928345 \times 0.000006206659334305133 \times 2.213358074774351e-58 \times 1.7512770330243724e-63 = 2.7710771129553355e-131$$

$$y = 2.4878354425739805e-10 / 2.4878354425739805e-10 = 1$$