

Contemporary Data Processing Technology (CCOD)

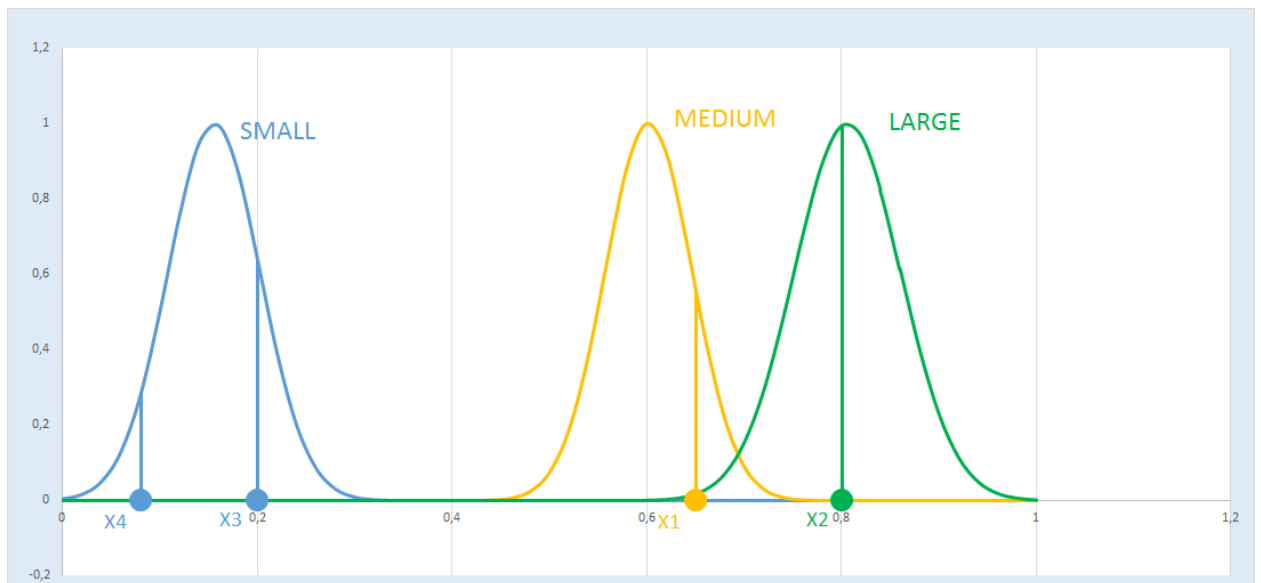
Lab 6 (October 14, 2016)

Melnikov Artem, AS-36

Table of rules:

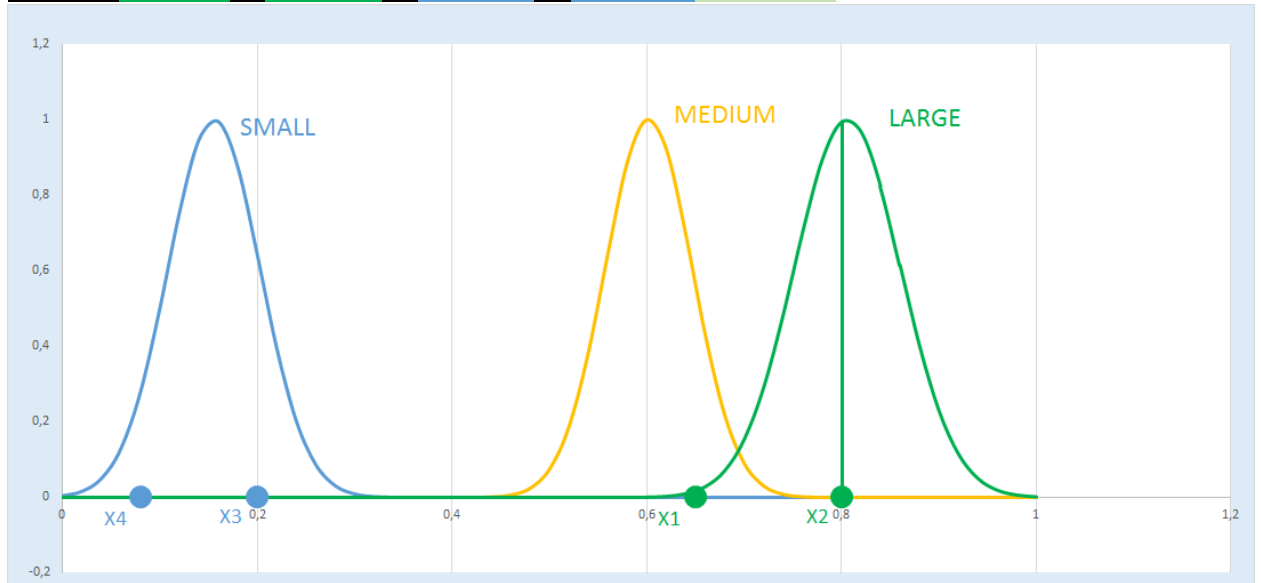
	if x1 =	if x2 =	if x3 =	if x4 =
Setosa	medium	large	small	small
	large	large	small	small
Versicolor	large	medium	medium	medium
	medium	medium	medium	medium
Virginea	large	large	large	large
	large	medium	large	large
Other	small	small	medium	large

Rule 1: if x1 = medium, if x2 = large, if x3 = small, if x4 = small then Setosa



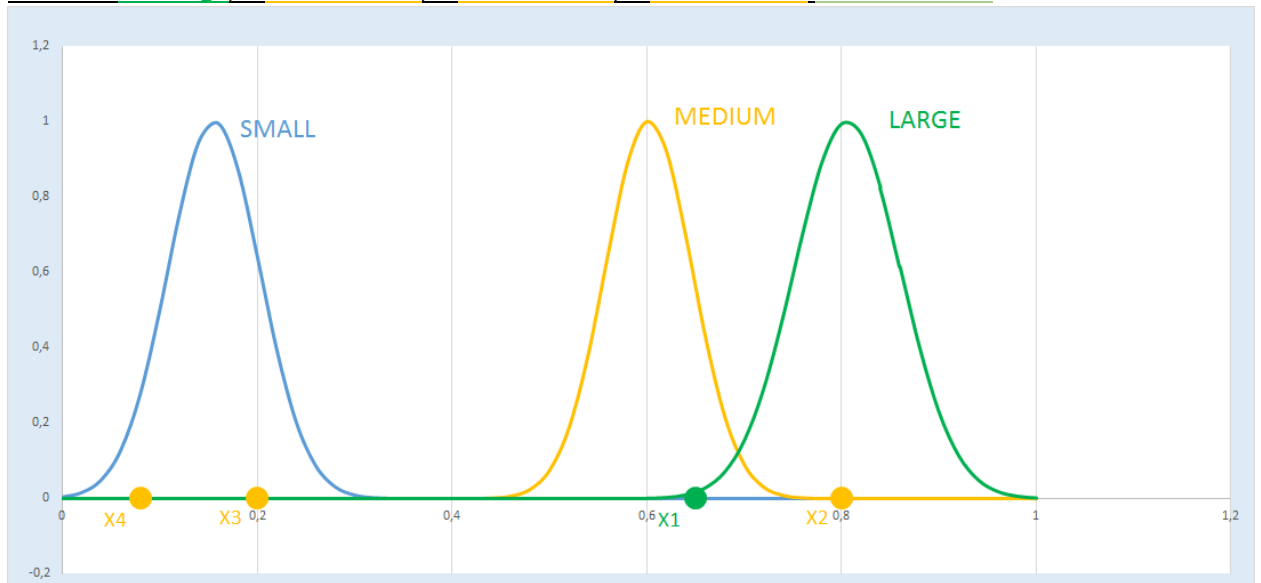
$M = 0.3652 * 0.9911 * 0.6789 * 0.2873 = 0.0706$

Rule 2: if $x_1 = \text{large}$, if $x_2 = \text{large}$, if $x_3 = \text{small}$, if $x_4 = \text{small}$ then Setosa



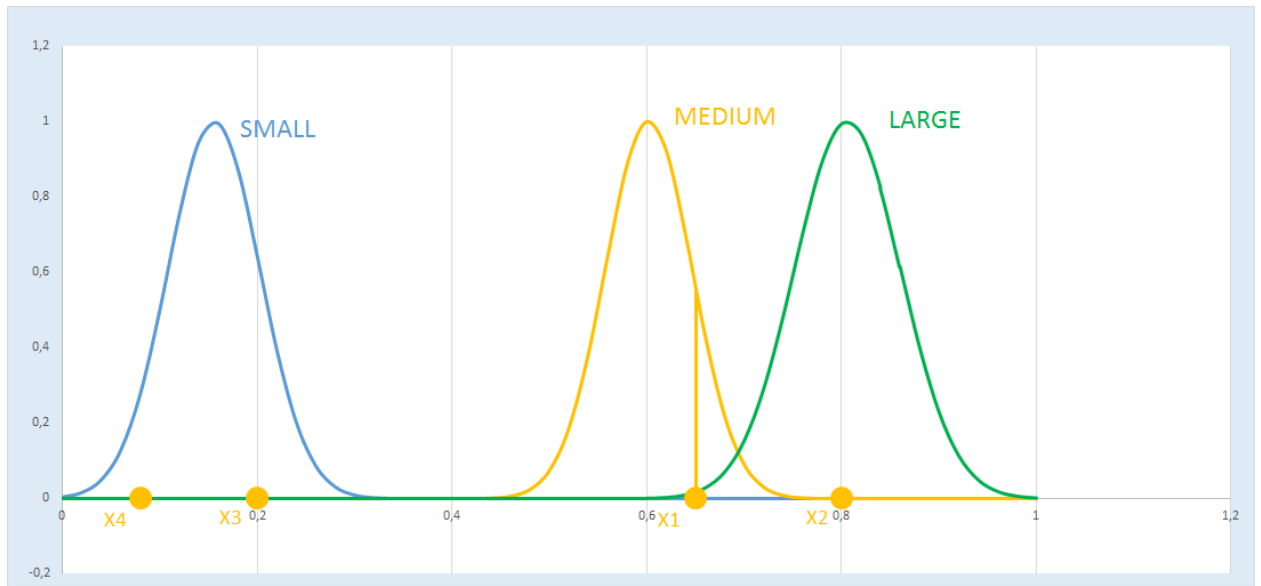
$$M = 0.06799 * 0.9911 * 0.6789 * 0.2873 = 0.0131$$

Rule 3: if $x_1 = \text{large}$, if $x_2 = \text{medium}$, if $x_3 = \text{medium}$, if $x_4 = \text{medium}$ then Versicolor



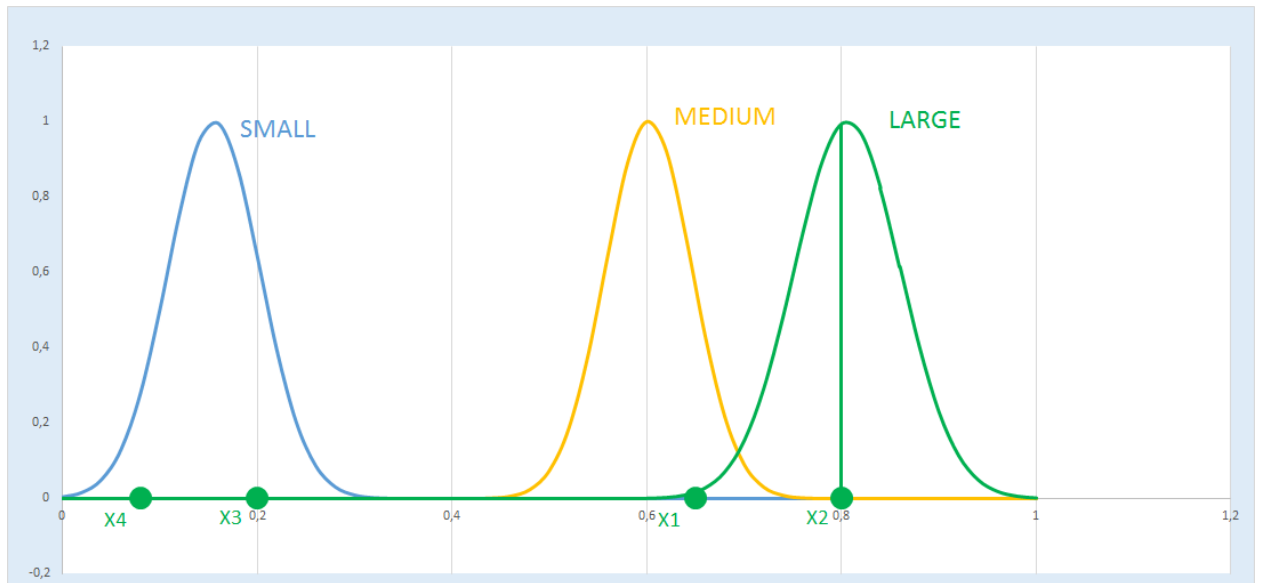
$$M = 0.0679 \times 0.00003 \times 1.3702e-14 \times 1.1549e-24 = 3.3480e-44$$

Rule 4: if $x_1 = \text{medium}$, if $x_2 = \text{medium}$, if $x_3 = \text{medium}$, if $x_4 = \text{medium}$ then **Versicolor**



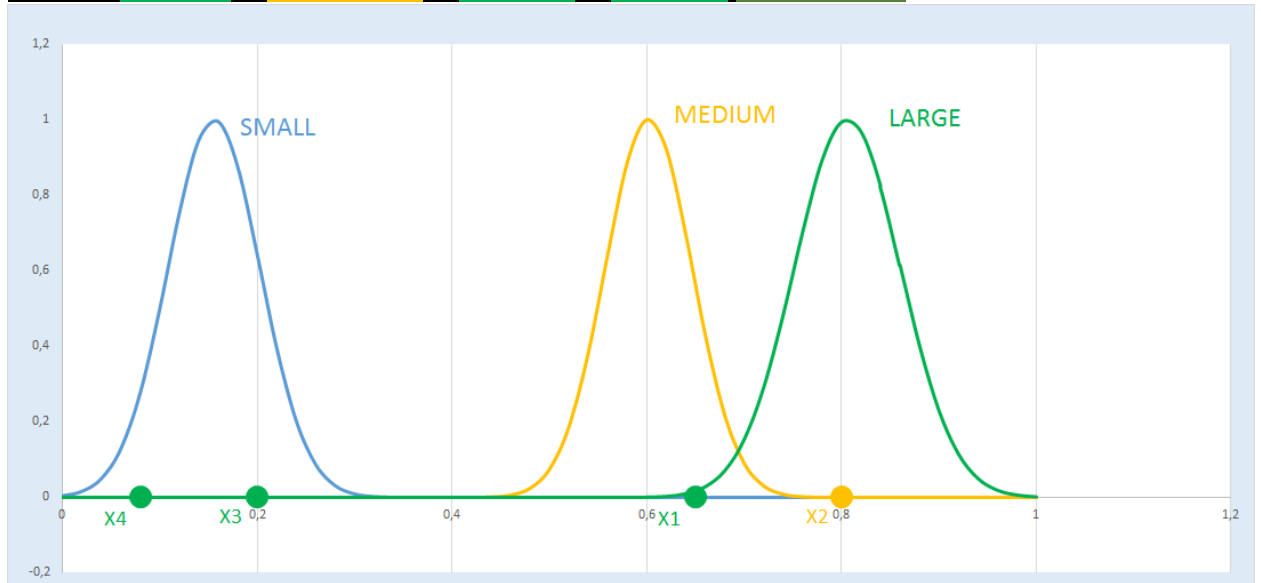
$$M = 0.3652 * 0.00003 * 1.3702e-14 * 1.1549e-24 = 1.7983e-43$$

Rule 5: if $x_1 = \text{large}$, if $x_2 = \text{large}$, if $x_3 = \text{large}$, if $x_4 = \text{large}$ then **Virginica**



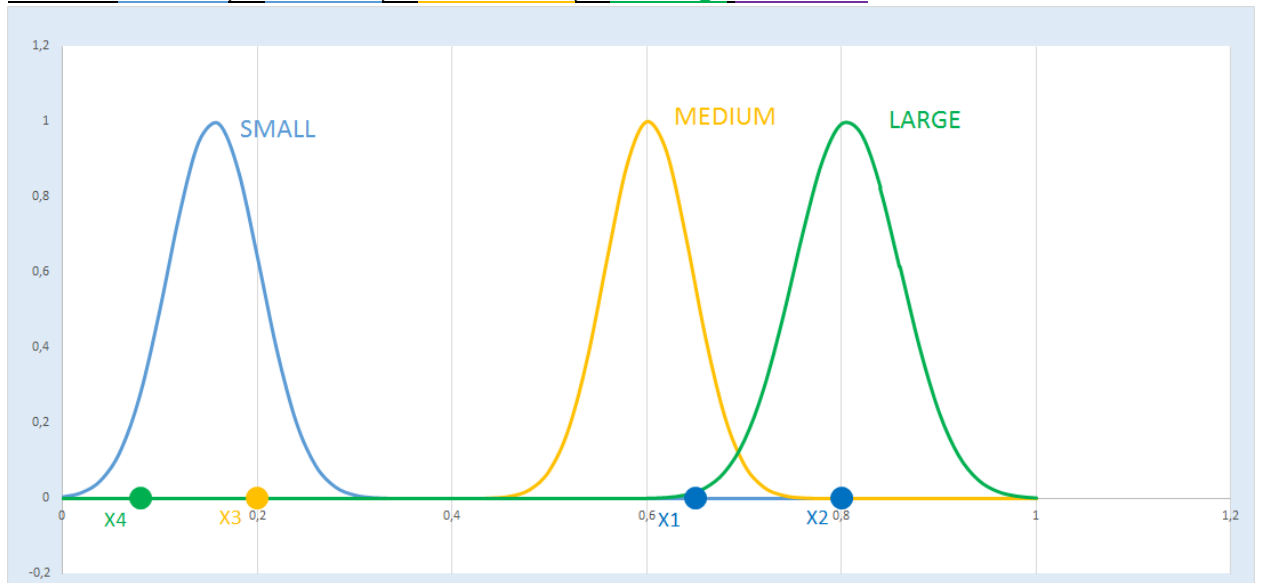
$$M = 0.0679 * 0.9911 * 4.6749e-21 * 3.8865e-30 = 1.2243e-51$$

Rule 6: if $x_1 = \text{large}$, if $x_2 = \text{medium}$, if $x_3 = \text{large}$, if $x_4 = \text{large}$ then Virginia



$$M = 0.0679 * 0.00003 * 4.6749e-21 * 3.8865e-30 = 3.8438e-56$$

Rule 7: if $x_1 = \text{small}$, if $x_2 = \text{small}$, if $x_3 = \text{medium}$, if $x_4 = \text{large}$ then Other



$$M = 6.9012e-23 * 1.9945e-38 * 1.3702e-14 * 3.8865e-30 = 7.3307e-104$$

$$y = 0.0969 / 0.0837 = 1.1569$$

Concordance table:

N	Family Setosa	Family Vericolor	Family Virginica
1	Setosa	Vericolor	Virginica
2	Setosa	Vericolor	Virginica
3	Setosa	Vericolor	Virginica
4	Setosa	Vericolor	Virginica
5	Setosa	Vericolor	Virginica
6	Setosa	Vericolor	Virginica
7	Setosa	Vericolor	Vericolor
8	Setosa	Vericolor	Virginica
Success rate	100%	100%	87,50%