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| **Supervised Learning 1 (C4.5)** |

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| **Parameters** |

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| **Decision tree (C4.5) parameters** | |
| Min size of leaves | 300 |
| Confidence-level for pessimistic | 0,25 |

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| **Results** |

**Classifier performances**

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| --- | --- |
| **Error rate** | 0,1276 |
| **Values prediction** | **Confusion matrix** |
| |  |  |  | | --- | --- | --- | | **Value** | **Recall** | **1-Precision** | | **c\_som\_1\_1** | 0,6996 | 0,1008 | | **c\_som\_1\_2** | 0,8059 | 0,1506 | | **c\_som\_2\_1** | 0,9519 | 0,2013 | | **c\_som\_2\_2** | 0,8917 | 0,1338 | | **c\_som\_3\_1** | 0,8284 | 0,1628 | | **c\_som\_3\_2** | 0,9246 | 0,0782 | | |  |  |  |  |  |  |  |  | | --- | --- | --- | --- | --- | --- | --- | --- | |  | **c\_som\_1\_1** | **c\_som\_1\_2** | **c\_som\_2\_1** | **c\_som\_2\_2** | **c\_som\_3\_1** | **c\_som\_3\_2** | **Sum** | | **c\_som\_1\_1** | 892 | 30 | 124 | 169 | 17 | 43 | 1275 | | **c\_som\_1\_2** | 51 | 1540 | 136 | 39 | 142 | 3 | 1911 | | **c\_som\_2\_1** | 1 | 6 | 1405 | 60 | 3 | 1 | 1476 | | **c\_som\_2\_2** | 36 | 184 | 3 | 3327 | 97 | 84 | 3731 | | **c\_som\_3\_1** | 12 | 53 | 54 | 56 | 2211 | 283 | 2669 | | **c\_som\_3\_2** | 0 | 0 | 37 | 190 | 171 | 4882 | 5280 | | **Sum** | 992 | 1813 | 1759 | 3841 | 2641 | 5296 | 16342 | |

**Classifier characteristics**

**Data description**

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| **Target attribute** | Cluster\_SOM\_1 (6 values) |
| **# descriptors** | 11 |

**Tree description**

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| Number of nodes | 31 |
| Number of leaves | 16 |

**Decision tree**

* Temperatura Minima (Celsisus) < 9,8500
  + Visibilidad en km < 21,0000
    - Mḩmo viento sostenido (m/s) < 9,5500
      * Presion al nivel de la estacion (hpa) < 980,6500
        + Temperatura de rocio < 5,7500 then Cluster\_SOM\_1 = **c\_som\_1\_2** (93,27 % of 1471 examples)
        + Temperatura de rocio >= 5,7500 then Cluster\_SOM\_1 = **c\_som\_3\_1** (47,26 % of 419 examples)
      * Presion al nivel de la estacion (hpa) >= 980,6500
        + Temperatura de rocio < 0,4500

Presion al nivel de la estacion (hpa) < 1007,4000 then Cluster\_SOM\_1 = **c\_som\_1\_2** (49,12 % of 342 examples)

Presion al nivel de la estacion (hpa) >= 1007,4000 then Cluster\_SOM\_1 = **c\_som\_2\_2** (94,03 % of 335 examples)

* + - * + Temperatura de rocio >= 0,4500 then Cluster\_SOM\_1 = **c\_som\_2\_2** (93,25 % of 2742 examples)
    - Mḩmo viento sostenido (m/s) >= 9,5500
      * Mḩmo viento sostenido (m/s) < 11,5500
        + Temperatura de rocio < 2,2500 then Cluster\_SOM\_1 = **c\_som\_1\_1** (72,85 % of 302 examples)
        + Temperatura de rocio >= 2,2500 then Cluster\_SOM\_1 = **c\_som\_2\_2** (48,62 % of 325 examples)
      * Mḩmo viento sostenido (m/s) >= 11,5500 then Cluster\_SOM\_1 = **c\_som\_1\_1** (97,39 % of 690 examples)
  + Visibilidad en km >= 21,0000 then Cluster\_SOM\_1 = **c\_som\_2\_1** (79,00 % of 1343 examples)
* Temperatura Minima (Celsisus) >= 9,8500
  + Presion al nivel de la estacion (hpa) < 970,0500
    - Visibilidad en km < 11,0000
      * Mḩmo viento sostenido (m/s) < 5,4000 then Cluster\_SOM\_1 = **c\_som\_3\_2** (74,50 % of 353 examples)
      * Mḩmo viento sostenido (m/s) >= 5,4000 then Cluster\_SOM\_1 = **c\_som\_3\_1** (78,63 % of 351 examples)
    - Visibilidad en km >= 11,0000 then Cluster\_SOM\_1 = **c\_som\_3\_1** (92,84 % of 1871 examples)
  + Presion al nivel de la estacion (hpa) >= 970,0500
    - Visibilidad en km < 21,4000
      * Temperatura media diaria < 16,8500
        + Temperatura de rocio < 12,1500 then Cluster\_SOM\_1 = **c\_som\_2\_2** (67,65 % of 439 examples)
        + Temperatura de rocio >= 12,1500 then Cluster\_SOM\_1 = **c\_som\_3\_2** (90,03 % of 321 examples)
      * Temperatura media diaria >= 16,8500 then Cluster\_SOM\_1 = **c\_som\_3\_2** (93,68 % of 4622 examples)
    - Visibilidad en km >= 21,4000 then Cluster\_SOM\_1 = **c\_som\_2\_1** (82,69 % of 416 examples)

Computation time : 172 ms.  
Created at 03/12/2013 10:58:20