|  |  |  |  |
| --- | --- | --- | --- |
| Valence | | | |
|  | **Labeler 1** | **Labeler 2** | **Labeler 3** |
| Μέση Τιμή | 3.34466019417476 | 3.03155339805825 | 3.25242718446602 |
| Τυπική Απόκλιση | 0.892055027089517 | 0.872100417532829 | 1.05303127827738 |

|  |  |  |  |
| --- | --- | --- | --- |
| Activation | | | |
|  | **Labeler 1** | **Labeler 2** | **Labeler 3** |
| Μέση Τιμή | 3.20145631067961 | 3.26456310679612 | 2.65291262135922 |
| Τυπική Απόκλιση | 0.915238825430635 | 0.928283114690778 | 1.01732738076082 |

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
|  | Valence | | | | |
| Activation | 0 | 0 | 2 | 3 | 0 |
| 0 | 4 | 13 | 59 | 1 |
| 3 | 17 | 27 | 68 | 11 |
| 9 | 46 | 83 | 40 | 1 |
| 1 | 20 | 4 | 0 | 0 |

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
|  | Valence | | | | |
| Activation | 0 | 0 | 0 | 4 | 6 |
| 0 | 0 | 26 | 64 | 17 |
| 5 | 34 | 69 | 57 | 3 |
| 8 | 25 | 58 | 21 | 2 |
| 1 | 8 | 2 | 2 | 0 |

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
|  | Valence | | | | |
| Activation | 3 | 6 | 5 | 5 | 4 |
| 0 | 16 | 32 | 33 | 7 |
| 8 | 30 | 43 | 11 | 3 |
| 23 | 71 | 62 | 16 | 2 |
| 19 | 11 | 2 | 0 | 0 |

|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
|  | | Valence | | | | | | | | | | | | |
| 1 | 1,33 | 1,66 | 2 | 2,33 | 2,66 | 3 | 3,33 | 3,66 | 4 | 4,33 | 4,66 | 5 |
| Activation | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 |
| 1,33 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 1 | 0 | 0 |
| 1,66 | 0 | 0 | 0 | 0 | 0 | 2 | 1 | 3 | 3 | 2 | 0 | 1 | 1 |
| 2 | 0 | 0 | 0 | 0 | 1 | 0 | 1 | 2 | 5 | 8 | 7 | 1 | 1 |
| 2,33 | 0 | 0 | 1 | 0 | 2 | 2 | 1 | 8 | 14 | 9 | 3 | 6 | 1 |
| 2,66 | 1 | 0 | 0 | 0 | 1 | 4 | 8 | 8 | 17 | 4 | 1 | 1 | 0 |
| 3 | 0 | 0 | 3 | 0 | 4 | 8 | 10 | 14 | 8 | 6 | 0 | 0 | 0 |
| 3,33 | 1 | 1 | 1 | 5 | 3 | 13 | 8 | 15 | 2 | 2 | 1 | 0 | 0 |
| 3,66 | 1 | 2 | 3 | 6 | 9 | 14 | 18 | 13 | 3 | 2 | 0 | 0 | 0 |
| 4 | 0 | 2 | 3 | 13 | 6 | 18 | 8 | 10 | 3 | 2 | 2 | 0 | 0 |
| 4,33 | 0 | 2 | 5 | 7 | 5 | 5 | 2 | 1 | 0 | 0 | 0 | 0 | 0 |
| 4,66 | 1 | 1 | 2 | 2 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 5 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |

|  |  |  |  |
| --- | --- | --- | --- |
| Activation | | | |
|  | **Labeler 1** | **Labeler 2** | **Labeler 3** |
| Μέση Τιμή | 3.20145631067961 | 3.26456310679612 | 2.65291262135922 |
| Τυπική Απόκλιση | 0.915238825430635 | 0.928283114690778 | 1.01732738076082 |

Ερωτημα 12

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| KNN Algorithm - Features’ Set 1 | | | | |
| Activation | | | | |
| Number of Neighbours | Accuracy | Precision | Recall | F1-score |
| 1 | 0.666666666666667 | 0.631559290382820 | 0.613333333333333 | 0.618139992053036 |
| 3 | 0.652582159624413 | 0.615395021645022 | 0.607619047619048 | 0.605770963356103 |
| 5 | 0.610328638497653 | 0.569932297889287 | 0.533333333333333 | 0.545486234195912 |
| 7 | 0.610328638497653 | 0.569047619047619 | 0.516190476190476 | 0.538613587670191 |

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| KNN Algorithm - Features’ Set 2 | | | | |
| Activation | | | | |
| Number of Neighbours | Accuracy | Precision | Recall | F1-score |
| 1 | 0.544600938967136 | 0.488719124013242 | 0.521904761904762 | 0.502596320887175 |
| 3 | 0.568075117370892 | 0.515179265179265 | 0.470476190476191 | 0.488573715907644 |
| 5 | 0.577464788732394 | 0.524389233954451 | 0.464761904761905 | 0.488407224958949 |
| 7 | 0.582159624413146 | 0.530138204707170 | 0.480000000000000 | 0.495682960857090 |

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| KNN Algorithm - Features’ Set 3 | | | | |
| Activation | | | | |
| Number of Neighbours | Accuracy | Precision | Recall | F1-score |
| 1 | 0.652582159624413 | 0.607215836526181 | 0.605714285714286 | 0.604186562872009 |
| 3 | 0.666666666666667 | 0.642889784946237 | 0.598095238095238 | 0.610951621477937 |
| 5 | 0.610328638497653 | 0.569932297889287 | 0.533333333333333 | 0.545486234195912 |
| 7 | 0.610328638497653 | 0.569047619047619 | 0.516190476190476 | 0.538613587670191 |

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| KNN Algorithm - Features’ Set 1 | | | | |
| Valence | | | | |
| Number of Neighbours | Accuracy | Precision | Recall | F1-score |
| 1 | 0.610328638497653 | 0.710357195139804 | 0.684914361001317 | 0.697184759684760 |
| 3 | 0.563380281690141 | 0.659100073531156 | 0.682516469038208 | 0.670588235294118 |
| 5 | 0.577464788732394 | 0.667136752136752 | 0.715138339920949 | 0.689245911130410 |
| 7 | 0.615023474178404 | 0.682121872317951 | 0.779934123847167 | 0.726544082979727 |

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| KNN Algorithm - Features’ Set 2 | | | | |
| Valence | | | | |
| Number of Neighbours | Accuracy | Precision | Recall | F1-score |
| 1 | 0.671361502347418 | 0.782818113064852 | 0.693399209486166 | 0.734816369647830 |
| 3 | 0.633802816901409 | 0.733333333333333 | 0.701805006587615 | 0.715249691045950 |
| 5 | 0.629107981220657 | 0.726167471819646 | 0.701554677206851 | 0.712873362505933 |
| 7 | 0.671361502347418 | 0.746004728132388 | 0.760513833992095 | 0.751878092667566 |

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| KNN Algorithm - Features’ Set 3 | | | | |
| Valence | | | | |
| Number of Neighbours | Accuracy | Precision | Recall | F1-score |
| 1 | 0.586854460093897 | 0.690382081686430 | 0.670671936758893 | 0.680116381203338 |
| 3 | 0.558685446009390 | 0.654217762913415 | 0.682187088274045 | 0.667908960274417 |
| 5 | 0.586854460093897 | 0.672975857009471 | 0.721805006587615 | 0.696105383734250 |
| 7 | 0.610328638497653 | 0.679738562091503 | 0.773267457180501 | 0.722385667138143 |

Ερωτημα 13

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| BAYES Algorithm | | | | |
| Activation | | | | |
| Features’ set | Accuracy | Precision | Recall | F1-score |
| 1 | 0.525821596244132 | 0.485802835937409 | 0.939047619047619 | 0.636165020569945 |
| 2 | 0.605633802816902 | 0.544588744588745 | 0.628571428571429 | 0.582179845470985 |
| 3 | 0.530516431924883 | 0.487512813138352 | 0.939047619047619 | 0.637930569598921 |

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| BAYES Algorithm | | | | |
| Valence | | | | |
| Features’ set | Accuracy | Precision | Recall | F1-score |
| 1 | 0.582159624413146 | 0.662014730339748 | 0.746192358366272 | 0.697679845783346 |
| 2 | 0.652582159624413 | 0.766018534311217 | 0.681225296442688 | 0.719708207877408 |
| 3 | 0.619718309859155 | 0.683550428960034 | 0.790158102766798 | 0.730158730158730 |

Ερώτημα 14

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| Activation | | | | | | |
| PCA Components: | **Algorithm→**  **Metrics↓** | **NNR-1** | **NNR-3** | **NNR-5** | **NNR-7** | **BAYES** |
| 10 | **Accuracy** | 0.58216 | 0.63380 | 0.56808 | 0.57277 | 0.5774 |
| **Precision** | 0.53522 | 0.60577 | 0.52407 | 0.53625 | 0.51825 |
| **Recall** | 0.55083 | 0.56190 | 0.49056 | 0.47981 | 0.92736 |
| **F1-score** | 0.54186 | 0.58148 | 0.50667 | 0.50561 | 0.66445 |
| 50 | **Accuracy** | 0.59624 | 0.65258 | 0.56338 | 0.55869 | 0.54930 |
| **Precision** | 0.58004 | 0.65090 | 0.55556 | 0.55148 | 0.51680 |
| **Recall** | 0.58676 | 0.58527 | 0.50061 | 0.49311 | 0.86759 |
| **F1-score** | 0.58245 | 0.61599 | 0.52381 | 0.51518 | 0.64605 |
| 100 | **Accuracy** | 0.59155 | 0.62441 | 0.55399 | 0.53521 | 0.57746 |
| **Precision** | 0.60474 | 0.66657 | 0.58095 | 0.56098 | 0.55511 |
| **Recall** | 0.60115 | 0.56403 | 0.51106 | 0.49440 | 0.85639 |
| **F1-score** | 0.60024 | 0.60674 | 0.54086 | 0.52174 | 0.67304 |
| 150 | **Accuracy** | 0.61033 | 0.63380 | 0.54460 | 0.57277 | 0.56338 |
| **Precision** | 0.59700 | 0.64518 | 0.54391 | 0.58253 | 0.53512 |
| **Recall** | 0.64762 | 0.58095 | 0.46667 | 0.47619 | 0.90476 |
| **F1-score** | 0.62121 | 0.61070 | 0.49962 | 0.52300 | 0.67111 |

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| Valence | | | | | | |
| PCA Components: | **Algorithm→**  **Metrics↓** | **NNR-1** | **NNR-3** | **NNR-5** | **NNR-7** | **BAYES** |
| 10 | **Accuracy** | 0.58216 | 0.52582 | 0.49765 | 0.54460 | 0.52582 |
| **Precision** | 0.62478 | 0.57255 | 0.54921 | 0.57482 | 0.56937 |
| **Recall** | 0.68045 | 0.69089 | 0.70677 | 0.78070 | 0.72682 |
| **F1-score** | 0.65137 | 0.62484 | 0.61687 | 0.66097 | 0.63305 |
| 50 | **Accuracy** | 0.64319 | 0.58216 | 0.54460 | 0.53521 | 0.58216 |
| **Precision** | 0.68166 | 0.62346 | 0.59486 | 0.59089 | 0.61563 |
| **Recall** | 0.78274 | 0.78274 | 0.77500 | 0.75149 | 0.83321 |
| **F1-score** | 0.72713 | 0.69365 | 0.67302 | 0.66153 | 0.70544 |
| 100 | **Accuracy** | 0.55869 | 0.56808 | 0.56338 | 0.55399 | 0.57746 |
| **Precision** | 0.61879 | 0.62901 | 0.62302 | 0.61140 | 0.62016 |
| **Recall** | 0.72170 | 0.71736 | 0.72511 | 0.74188 | 0.77432 |
| **F1-score** | 0.66533 | 0.66916 | 0.66911 | 0.66886 | 0.68742 |
| 150 | **Accuracy** | 0.59155 | 0.55869 | 0.53991 | 0.54930 | 0.52113 |
| **Precision** | 0.62630 | 0.59389 | 0.57527 | 0.57842 | 0.55855 |
| **Recall** | 0.72588 | 0.73837 | 0.75689 | 0.76938 | 0.78639 |
| **F1-score** | 0.66899 | 0.65620 | 0.65059 | 0.65783 | 0.65151 |

Ερώτημα 16:

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| Activation - Features’ Set 1 | | | | | | |
| Multilayer Perceptron | | | | | | |
| Number of Hidden Layers: | **Metrics→**  **Learning Ratio↓** | **Accuracy** | **Precision** | | **Recall** | **F1-score** |
| 1 | **0.1** | 71.2676% | 0.712 | | 0.713 | 0.712 |
| **0.4** | 73.5211% | 0.736 | | 0.735 | 0.735 |
| **0.7** | 71.831% | 0.720 | | 0.718 | 0.719 |
| **0.9** | 71.2676% | 0.712 | | 0.713 | 0.711 |
| 2 | **0.1** | 72.3944% | 0.723 | | 0.724 | 0.723 |
| **0.4** | 72.6761% | 0.726 | | 0.727 | 0.726 |
| **0.7** | 70.9859% | 0.709 | | 0.710 | 0.708 |
| **0.9** | 71.5493% | 0.715 | | 0.715 | 0.714 |
| 4 | **0.1** | 54.3662% | 0.296 | | 0.544 | 0.383 |
| **0.4** | 52.3944% | 0.500 | | 0.524 | 0.476 |
| **0.7** | 52.3944% | 0.500 | | 0.524 | 0.476 |
| **0.9** | 52.3944% | 0.500 | | 0.524 | 0.476 |
| 6 | **0.1** | 54.3662% | 0.296 | | 0.544 | 0.383 |
| **0.4** | 52.3944% | 0.500 | | 0.524 | 0.476 |
| **0.7** | 52.3944% | 0.500 | | 0.524 | 0.476 |
| **0.9** | 52.3944% | 0.500 | | 0.524 | 0.476 |
| 8 | **0.1** | 54.3662% | 0.296 | | 0.544 | 0.383 |
| **0.4** | 52.3944% | 0.500 | | 0.524 | 0.476 |
| **0.7** | 52.3944% | 0.500 | | 0.524 | 0.476 |
| **0.9** | 52.3944% | 0.500 | | 0.524 | 0.476 |
| Support Vector Machines(SVM) | | | | | | |
| Accuracy | **Precision** | **Recall** | | **F1-score** | | |
| 73.8028 % | **0.739** | **0.738** | | **0.738** | | |
| Random Forest | | | | | | |
| Accuracy | **Precision** | **Recall** | | **F1-score** | | |
| 74.9296 % | **0.749** | **0.749** | | **0.749** | | |

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| Activation - Features’ Set 2 | | | | | | |
| Multilayer Perceptron | | | | | | |
| Number of Hidden Layers: | **Metrics→**  **Learning Ratio↓** | **Accuracy** | **Precision** | | **Recall** | **F1-score** |
| 1 | **0.1** | 71.5493% | 0.716 | | 0.715 | 0.716 |
| **0.4** | 72.6761% | 0.727 | | 0.727 | 0.727 |
| **0.7** | 70.1408% | 0.703 | | 0.701 | 0.702 |
| **0.9** | 71.2676% | 0.713 | | 0.713 | 0.713 |
| 2 | **0.1** | 71.831% | 0.719 | | 0.718 | 0.718 |
| **0.4** | 71.2676% | 0.712 | | 0.713 | 0.713 |
| **0.7** | 71.2676% | 0.713 | | 0.713 | 0.713 |
| **0.9** | 71.2676% | 0.712 | | 0.713 | 0.711 |
| 4 | **0.1** | 54.3662% | 0.296 | | 0.544 | 0.383 |
| **0.4** | 71.2676% | 0.713 | | 0.713 | 0.710 |
| **0.7** | 65.9155% | 0.661 | | 0.659 | 0.651 |
| **0.9** | 61.1268% | 0.609 | | 0.611 | 0.608 |
| 6 | **0.1** | 54.3662% | 0.296 | | 0.544 | 0.383 |
| **0.4** | 52.3944% | 0.500 | | 0.524 | 0.476 |
| **0.7** | 52.3944% | 0.500 | | 0.524 | 0.476 |
| **0.9** | 52.3944% | 0.500 | | 0.524 | 0.476 |
| 8 | **0.1** | 54.3662% | 0.296 | | 0.544 | 0.383 |
| **0.4** | 52.3944% | 0.500 | | 0.524 | 0.476 |
| **0.7** | 52.3944% | 0.500 | | 0.524 | 0.476 |
| **0.9** | 52.3944% | 0.500 | | 0.524 | 0.476 |
| Support Vector Machines(SVM) | | | | | | |
| Accuracy | **Precision** | **Recall** | | **F1-score** | | |
| 75.7746 % | **0.757** | **0.758** | | **0.757** | | |
| Random Forest | | | | | | |
| Accuracy | **Precision** | **Recall** | | **F1-score** | | |
| 75.7746 % | **0.757** | **0.758** | | **0.757** | | |

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| Activation - Features’ Set 3 | | | | | | |
| Multilayer Perceptron | | | | | | |
| Number of Hidden Layers: | **Metrics→**  **Learning Ratio↓** | **Accuracy** | **Precision** | | **Recall** | **F1-score** |
| 1 | **0.1** | 74.0845% | 0.743 | | 0.741 | 0.741 |
| **0.4** | 71.5493% | 0.718 | | 0.715 | 0.716 |
| **0.7** | 70.1408% | 0.704 | | 0.701 | 0.702 |
| **0.9** | 72.1127% | 0.723 | | 0.721 | 0.722 |
| 2 | **0.1** | 74.9296% | 0.751 | | 0.749 | 0.750 |
| **0.4** | 73.8028% | 0.738 | | 0.738 | 0.738 |
| **0.7** | 74.6479% | 0.746 | | 0.746 | 0.746 |
| **0.9** | 75.493% | 0.754 | | 0.755 | 0.754 |
| 4 | **0.1** | 67.3239% | 0.682 | | 0.673 | 0.661 |
| **0.4** | 71.831% | 0.724 | | 0.718 | 0.719 |
| **0.7** | 72.9577% | 0.734 | | 0.730 | 0.730 |
| **0.9** | 72.6761% | 0.736 | | 0.727 | 0.727 |
| 6 | **0.1** | 54.3662% | 0.296 | | 0.544 | 0.383 |
| **0.4** | 52.3944% | 0.500 | | 0.524 | 0.476 |
| **0.7** | 52.3944% | 0.500 | | 0.524 | 0.476 |
| **0.9** | 52.3944% | 0.500 | | 0.524 | 0.476 |
| 8 | **0.1** | 54.3662% | 0.296 | | 0.544 | 0.383 |
| **0.4** | 52.3944% | 0.500 | | 0.524 | 0.476 |
| **0.7** | 52.3944% | 0.500 | | 0.524 | 0.476 |
| **0.9** | 52.3944% | 0.500 | | 0.524 | 0.476 |
| Support Vector Machines(SVM) | | | | | | |
| Accuracy | **Precision** | **Recall** | | **F1-score** | | |
| 75.7746 % | **0.758** | **0.758** | | **0.758** | | |
| Random Forest | | | | | | |
| Accuracy | **Precision** | **Recall** | | **F1-score** | | |
| 79.1549 % | **0.792** | **0.792** | | **0.792** | | |

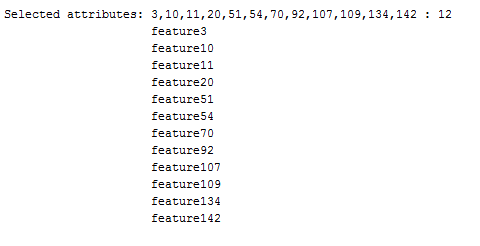
|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| Valence - Features’ Set 1 | | | | | | |
| Multilayer Perceptron | | | | | | |
| Number of Hidden Layers: | **Metrics→**  **Learning Ratio↓** | **Accuracy** | **Precision** | | **Recall** | **F1-score** |
| 1 | **0.1** | 73.5376% | 0.732 | | 0.735 | 0.733 |
| **0.4** | 71.8663% | 0.714 | | 0.719 | 0.715 |
| **0.7** | 70.7521% | 0.701 | | 0.708 | 0.702 |
| **0.9** | 68.2451% | 0.684 | | 0.682 | 0.683 |
| 2 | **0.1** | 72.9805% | 0.726 | | 0.730 | 0.727 |
| **0.4** | 70.4735% | 0.698 | | 0.705 | 0.698 |
| **0.7** | 71.0306% | 0.705 | | 0.710 | 0.706 |
| **0.9** | 71.0306% | 0.704 | | 0.710 | 0.705 |
| 4 | **0.1** | 62.6741% | 0.393 | | 0.627 | 0.483 |
| **0.4** | 62.6741% | 0.393 | | 0.627 | 0.483 |
| **0.7** | 62.6741% | 0.393 | | 0.627 | 0.483 |
| **0.9** | 62.6741% | 0.393 | | 0.627 | 0.483 |
| 6 | **0.1** | 62.6741% | 0.393 | | 0.627 | 0.483 |
| **0.4** | 62.6741% | 0.393 | | 0.627 | 0.483 |
| **0.7** | 62.6741% | 0.393 | | 0.627 | 0.483 |
| **0.9** | 62.6741% | 0.393 | | 0.627 | 0.483 |
| 8 | **0.1** | 62.6741% | 0.393 | | 0.627 | 0.483 |
| **0.4** | 62.6741% | 0.393 | | 0.627 | 0.483 |
| **0.7** | 62.6741% | 0.393 | | 0.627 | 0.483 |
| **0.9** | 62.6741% | 0.393 | | 0.627 | 0.483 |
| Support Vector Machines(SVM) | | | | | | |
| Accuracy | **Precision** | **Recall** | | **F1-score** | | |
| 74.0947 % | **0.742** | **0.741** | | **0.724** | | |
| Random Forest | | | | | | |
| Accuracy | **Precision** | **Recall** | | **F1-score** | | |
| 71.5877 % | **0.711** | **0.716** | | **0.712** | | |

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| Valence - Features’ Set 2 | | | | | | |
| Multilayer Perceptron | | | | | | |
| Number of Hidden Layers: | **Metrics→**  **Learning Ratio↓** | **Accuracy** | **Precision** | | **Recall** | **F1-score** |
| 1 | **0.1** | 79.1086% | 0.790 | | 0.791 | 0.791 |
| **0.4** | 77.9944% | 0.778 | | 0.780 | 0.779 |
| **0.7** | 77.4373% | 0.774 | | 0.774 | 0.774 |
| **0.9** | 77.4373% | 0.775 | | 0.774 | 0.775 |
| 2 | **0.1** | 77.9944% | 0.780 | | 0.780 | 0.780 |
| **0.4** | 77.1588% | 0.773 | | 0.772 | 0.772 |
| **0.7** | 75.766% | 0.762 | | 0.758 | 0.759 |
| **0.9** | 75.2089% | 0.753 | | 0.752 | 0.753 |
| 4 | **0.1** | 77.9944% | 0.780 | | 0.780 | 0.780 |
| **0.4** | 75.766% | 0.762 | | 0.758 | 0.759 |
| **0.7** | 77.4373% | 0.781 | | 0.774 | 0.776 |
| **0.9** | 74.9304% | 0.755 | | 0.749 | 0.751 |
| 6 | **0.1** | 62.6741% | 0.393 | | 0.627 | 0.483 |
| **0.4** | 62.6741% | 0.393 | | 0.627 | 0.483 |
| **0.7** | 62.6741% | 0.393 | | 0.627 | 0.483 |
| **0.9** | 62.6741% | 0.393 | | 0.627 | 0.483 |
| 8 | **0.1** | 62.6741% | 0.393 | | 0.627 | 0.483 |
| **0.4** | 62.6741% | 0.393 | | 0.627 | 0.483 |
| **0.7** | 62.6741% | 0.393 | | 0.627 | 0.483 |
| **0.9** | 62.6741% | 0.393 | | 0.627 | 0.483 |
| Support Vector Machines(SVM) | | | | | | |
| Accuracy | **Precision** | **Recall** | | **F1-score** | | |
| 79.1086 % | **0.789** | **0.791** | | **0.789** | | |
| Random Forest | | | | | | |
| Accuracy | **Precision** | **Recall** | | **F1-score** | | |
| 77.7159 % | **0.776** | **0.777** | | **0.769** | | |

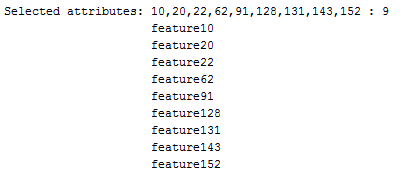
|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| Valence - Features’ Set 3 | | | | | | |
| Multilayer Perceptron | | | | | | |
| Number of Hidden Layers: | **Metrics→**  **Learning Ratio↓** | **Accuracy** | **Precision** | | **Recall** | **F1-score** |
| 1 | **0.1** | 77.4373% | 0.778 | | 0.774 | 0.776 |
| **0.4** | 78.8301% | 0.788 | | 0.788 | 0.788 |
| **0.7** | 77.1588% | 0.772 | | 0.772 | 0.772 |
| **0.9** | 76.8802% | 0.768 | | 0.769 | 0.768 |
| 2 | **0.1** | 76.8802% | 0.771 | | 0.769 | 0.770 |
| **0.4** | 76.6017% | 0.768 | | 0.766 | 0.767 |
| **0.7** | 76.3231% | 0.766 | | 0.763 | 0.764 |
| **0.9** | 77.1588% | 0.773 | | 0.772 | 0.772 |
| 4 | **0.1** | 77.7159% | 0.779 | | 0.777 | 0.778 |
| **0.4** | 76.8802% | 0.774 | | 0.769 | 0.770 |
| **0.7** | 79.6657% | 0.797 | | 0.797 | 0.797 |
| **0.9** | 75.4875% | 0.763 | | 0.755 | 0.757 |
| 6 | **0.1** | 62.6741% | 0.393 | | 0.627 | 0.483 |
| **0.4** | 62.6741% | 0.393 | | 0.627 | 0.483 |
| **0.7** | 62.6741% | 0.393 | | 0.627 | 0.483 |
| **0.9** | 62.6741% | 0.393 | | 0.627 | 0.483 |
| 8 | **0.1** | 62.6741% | 0.393 | | 0.627 | 0.483 |
| **0.4** | 62.6741% | 0.393 | | 0.627 | 0.483 |
| **0.7** | 62.6741% | 0.393 | | 0.627 | 0.483 |
| **0.9** | 62.6741% | 0.393 | | 0.627 | 0.483 |
| Support Vector Machines(SVM) | | | | | | |
| Accuracy | **Precision** | **Recall** | | **F1-score** | | |
| 79.1086 % | **0.789** | **0.791** | | **0.790** | | |
| Random Forest | | | | | | |
| Accuracy | **Precision** | **Recall** | | **F1-score** | | |
| 75.2089 % | **0.748** | **0.752** | | **0.743** | | |

Ερώτημα 17:

Attributes selected for Activation : 3 10 11 20 51 54 70 92 107 109 134 142 (total 12)



Attributes selected for Valence : 10 20 22 62 91 128 131 143 152 (total 9)



|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| Activation - Features’ Set 3 | | | | | | |
| Multilayer Perceptron | | | | | | |
| Number of Hidden Layers: | **Metrics→**  **Learning Ratio↓** | **Accuracy** | **Precision** | | **Recall** | **F1-score** |
| 1 | **0.1** | 76.6197% | 0.766 | | 0.766 | 0.766 |
| **0.4** | 76.338% | 0.763 | | 0.763 | 0.763 |
| **0.7** | 74.3662% | 0.743 | | 0.744 | 0.743 |
| **0.9** | 76.6197% | 0.766 | | 0.766 | 0.766 |
| 2 | **0.1** | 76.338% | 0.767 | | 0.763 | 0.764 |
| **0.4** | 74.9296% | 0.754 | | 0.749 | 0.750 |
| **0.7** | 73.5211% | 0.741 | | 0.735 | 0.736 |
| **0.9** | 73.5211% | 0.740 | | 0.735 | 0.736 |
| 4 | **0.1** | 54.3662% | 0.296 | | 0.544 | 0.383 |
| **0.4** | 52.3944% | 0.500 | | 0.524 | 0.476 |
| **0.7** | 52.3944% | 0.500 | | 0.524 | 0.476 |
| **0.9** | 52.3944% | 0.500 | | 0.524 | 0.476 |
| 6 | **0.1** | 54.3662% | 0.296 | | 0.544 | 0.383 |
| **0.4** | 52.3944% | 0.500 | | 0.524 | 0.476 |
| **0.7** | 52.3944% | 0.500 | | 0.524 | 0.476 |
| **0.9** | 52.3944% | 0.500 | | 0.524 | 0.476 |
| 8 | **0.1** | 54.3662% | 0.296 | | 0.544 | 0.383 |
| **0.4** | 52.3944% | 0.500 | | 0.524 | 0.476 |
| **0.7** | 52.3944% | 0.500 | | 0.524 | 0.476 |
| **0.9** | 52.3944% | 0.500 | | 0.524 | 0.476 |
| Support Vector Machines(SVM) | | | | | | |
| Accuracy | **Precision** | **Recall** | | **F1-score** | | |
| 84.507 % | **0.845** | **0.845** | | **0.845** | | |
| Random Forest | | | | | | |
| Accuracy | **Precision** | **Recall** | | **F1-score** | | |
| 80.4648 % | **0.801** | **0.804** | | **0.801** | | |

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| Valence - Features’ Set 3 | | | | | | |
| Multilayer Perceptron | | | | | | |
| Number of Hidden Layers: | **Metrics→**  **Learning Ratio↓** | **Accuracy** | **Precision** | | **Recall** | **F1-score** |
| 1 | **0.1** | 82.4513% | 0.823 | | 0.825 | 0.823 |
| **0.4** | 79.6657% | 0.794 | | 0.797 | 0.794 |
| **0.7** | 77.9944% | 0.777 | | 0.780 | 0.777 |
| **0.9** | 79.6657% | 0.795 | | 0.797 | 0.795 |
| 2 | **0.1** | 82.1727% | 0.820 | | 0.822 | 0.820 |
| **0.4** | 79.6657% | 0.797 | | 0.797 | 0.797 |
| **0.7** | 81.0585% | 0.811 | | 0.811 | 0.811 |
| **0.9** | 81.0585% | 0.809 | | 0.811 | 0.809 |
| 4 | **0.1** | 62.6741% | 0.393 | | 0.627 | 0.483 |
| **0.4** | 62.6741% | 0.393 | | 0.627 | 0.483 |
| **0.7** | 62.6741% | 0.393 | | 0.627 | 0.483 |
| **0.9** | 62.6741% | 0.393 | | 0.627 | 0.483 |
| 6 | **0.1** | 62.6741% | 0.393 | | 0.627 | 0.483 |
| **0.4** | 62.6741% | 0.393 | | 0.627 | 0.483 |
| **0.7** | 62.6741% | 0.393 | | 0.627 | 0.483 |
| **0.9** | 62.6741% | 0.393 | | 0.627 | 0.483 |
| 8 | **0.1** | 62.6741% | 0.393 | | 0.627 | 0.483 |
| **0.4** | 62.6741% | 0.393 | | 0.627 | 0.483 |
| **0.7** | 62.6741% | 0.393 | | 0.627 | 0.483 |
| **0.9** | 62.6741% | 0.393 | | 0.627 | 0.483 |
| Support Vector Machines(SVM) | | | | | | |
| Accuracy | **Precision** | **Recall** | | **F1-score** | | |
| 84.9582 % | **0.853** | **0.850** | | **0.845** | | |
| Random Forest | | | | | | |
| Accuracy | **Precision** | **Recall** | | **F1-score** | | |
| 79.3872 % | **0.791** | **0.794** | | **0.791** | | |