**Project 4**

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**Phase 1 – User dependent Analysis**

Filename : proj4\_phase1.m

Input : eating\_proj4\_input.csv, noneating\_proj4\_input.csv

Output : See below

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| Machines | Precision | Recall | F1score | ROC | |
| TPR | FPR |
| Decision Tree | 0.9691 | 0.8698 | 0.9167 | 97.2222 | 13.0208 |
| SVM | 0.8326 | 0.9931 | 0.9058 | 80.0347 | 0.69444 |
| Neural network | 0.9682 | 0.8993 | 0.9325 | 97.0486 | 10.0694 |

**Phase 2 – User Independent Analysis**

Filename : proj4\_phase2.m

Input : Copy all files from this [link](https://drive.google.com/open?id=1MnIbittnm1WlHu99PBeihcdfI8Wy8TU1) to the working directory

Output : See below

Decision Tree

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| Team | Precision | Recall | F1score | ROC | |
| TPR | FPR |
| Team11 | 0.58075 | 0.24722 | 0.34681 | 82.153 | 75.278 |
| Team12 | 0.77543 | 0.40764 | 0.53437 | 88.194 | 59.236 |
| Team13 | 0.7694 | 0.24097 | 0.367 | 92.778 | 75.903 |
| Team14 | 0.87766 | 0.22917 | 0.36344 | 96.806 | 77.083 |
| Team15 | 0.83333 | 0.62153 | 0.71201 | 87.569 | 37.847 |
| Team16 | 0.48411 | 0.275 | 0.35075 | 70.694 | 72.5 |
| Team17 | 0.51587 | 0.27083 | 0.35519 | 74.583 | 72.917 |
| Team18 | 0.56863 | 0.24167 | 0.33918 | 81.667 | 75.833 |
| Team19 | 0.76471 | 0.25278 | 0.37996 | 92.222 | 74.722 |
| Team20 | 0.41242 | 0.17986 | 0.25048 | 74.375 | 82.014 |
| Team21 | 0.77377 | 0.32778 | 0.46049 | 90.417 | 67.222 |
| Team22 | 0.19048 | 0.030556 | 0.052663 | 87.014 | 96.944 |
| Team23 | 0.71201 | 0.34167 | 0.46176 | 86.181 | 65.833 |
| Team24 | 0.81836 | 0.58194 | 0.68019 | 87.083 | 41.806 |
| Team25 | 0.86364 | 0.34306 | 0.49105 | 94.583 | 65.694 |
| Team26 | 0.38287 | 0.10556 | 0.16549 | 82.986 | 89.444 |
| Team27 | 0.51469 | 0.32847 | 0.40102 | 69.028 | 67.153 |
| Team28 | 0.46076 | 0.28542 | 0.35249 | 66.597 | 71.458 |
| Team29 | 0.84416 | 0.36111 | 0.50584 | 93.333 | 63.889 |
| Team30 | 0.50539 | 0.22778 | 0.31403 | 77.708 | 77.222 |
| Team31 | 0.64228 | 0.16458 | 0.26202 | 90.833 | 83.542 |
| Team32 | 0.86977 | 0.50556 | 0.63944 | 92.431 | 49.444 |
| Team33 | 0.6793 | 0.62222 | 0.64951 | 70.625 | 37.778 |

SVM

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| Team | Precision | Recall | F1score | ROC | |
| TPR | FPR |
| Team11 | 0.48784 | 0.93333 | 0.64076 | 2.0139 | 6.6667 |
| Team12 | 0.46785 | 0.87917 | 0.61071 | 0 | 12.083 |
| Team13 | 0.5 | 1 | 0.66667 | 0 | 0 |
| Team14 | 0.5 | 1 | 0.66667 | 0 | 0 |
| Team15 | 0.47674 | 0.91111 | 0.62595 | 0 | 8.8889 |
| Team16 | 0.50227 | 1 | 0.66868 | 0.90278 | 0 |
| Team17 | 0.46607 | 0.86806 | 0.6065 | 0.55556 | 13.194 |
| Team18 | 0.47636 | 0.90972 | 0.6253 | 0 | 9.0278 |
| Team19 | 0.47823 | 0.91528 | 0.62822 | 0.13889 | 8.4722 |
| Team20 | 0.4764 | 0.90417 | 0.62401 | 0.625 | 9.5833 |
| Team21 | 0.49983 | 0.99931 | 0.66636 | 0 | 0.069444 |
| Team22 | 0.5 | 1 | 0.66667 | 0 | 0 |
| Team23 | 0.48288 | 0.93056 | 0.63582 | 0.34722 | 6.9444 |
| Team24 | 0.49054 | 0.95417 | 0.64796 | 0.90278 | 4.5833 |
| Team25 | 0.49491 | 0.97986 | 0.65766 | 0 | 2.0139 |
| Team26 | 0.49433 | 0.96875 | 0.65462 | 0.90278 | 3.125 |
| Team27 | 0.48252 | 0.92986 | 0.63535 | 0.27778 | 7.0139 |
| Team28 | 0.48572 | 0.93333 | 0.63894 | 1.1806 | 6.6667 |
| Team29 | 0.46765 | 0.87847 | 0.61037 | 0 | 12.153 |
| Team30 | 0.4857 | 0.94375 | 0.64134 | 0.069444 | 5.625 |
| Team31 | 0.4883 | 0.94167 | 0.64311 | 1.3194 | 5.8333 |
| Team32 | 0.48033 | 0.92431 | 0.63215 | 0 | 7.5694 |
| Team33 | 0.50761 | 0.99583 | 0.67245 | 3.4028 | 0.41667 |

Neural network

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| Team | Precision | Recall | F1score | ROC | |
| TPR | FPR |
| Team11 | 0.30399 | 0.38125 | 0.33826 | 12.708 | 61.875 |
| Team12 | 0.7419 | 0.93819 | 0.82858 | 67.361 | 6.1806 |
| Team13 | 0.511 | 0.35486 | 0.41885 | 66.042 | 64.514 |
| Team14 | 0.68863 | 0.9 | 0.78025 | 59.306 | 10 |
| Team15 | 0.77061 | 0.98681 | 0.86541 | 70.625 | 1.3194 |
| Team16 | 0.61858 | 0.86944 | 0.72286 | 46.389 | 13.056 |
| Team17 | 0.57913 | 0.93264 | 0.71455 | 32.222 | 6.7361 |
| Team18 | 0.32274 | 0.41597 | 0.36347 | 12.708 | 58.403 |
| Team19 | 0.62785 | 0.36319 | 0.46018 | 78.472 | 63.681 |
| Team20 | 0.36963 | 0.45972 | 0.40978 | 21.597 | 54.028 |
| Team21 | 0.34962 | 0.41736 | 0.3805 | 22.361 | 58.264 |
| Team22 | 0.18475 | 0.18681 | 0.18577 | 17.569 | 81.319 |
| Team23 | 0.48182 | 0.44167 | 0.46087 | 52.5 | 55.833 |
| Team24 | 0.7246 | 0.94097 | 0.81873 | 64.236 | 5.9028 |
| Team25 | 0.49913 | 0.4 | 0.4441 | 59.861 | 60 |
| Team26 | 0.6826 | 0.38681 | 0.49379 | 82.014 | 61.319 |
| Team27 | 0.50898 | 0.74792 | 0.60574 | 27.847 | 25.208 |
| Team28 | 0.5177 | 0.87361 | 0.65013 | 18.611 | 12.639 |
| Team29 | 0.65172 | 0.56528 | 0.60543 | 69.792 | 43.472 |
| Team30 | 0.555 | 0.99514 | 0.71258 | 20.208 | 0.48611 |
| Team31 | 0.52842 | 0.30347 | 0.38553 | 72.917 | 69.653 |
| Team32 | 0.75 | 0.96042 | 0.84227 | 67.986 | 3.9583 |
| Team33 | 0.52053 | 0.84514 | 0.64426 | 22.153 | 15.486 |