ACC &NMI

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| --- | --- | --- | --- | --- | --- | --- | --- |
| datasets | FCM | LDAKM | BDR | RJSFC | MEDC | LDP | **FSLFC** |
| Iris | 0.8933 | 0.9600 | 0.8133 | **0.9867** | 0.9667 | 0.9733 | 0.9733 |
| Liver | 0.5262 | 0.6163 | 0.6017 | 0.6377 | 0.5872 | 0.5407 | **0.7180** |
| Wine | 0.6854 | 0.8260 | 0.6067 | 0.8876 | 0.9551 | 0.7135 | **0.9719** |
| heart | 0.5825 | 0.7609 | 0.6094 | 0.8249 | 0.6902 | 0.5791 | **0.8316** |
| Segmentation | 0.6429 | 0.5467 | 0.6143 | 0.7524 | 0.781 | 0.5286 | **0.7857** |
| Diabetics | 0.5352 | 0.5230 | 0.5439 | 0.6933 | 0.5891 | 0.5091 | **0.7011** |
| Diabetes | 0.6589 | 0.7083 | 0.5534 | 0.7279 | 0.6914 | 0.6589 | **0.7643** |
| wdbc | 0.8541 | 0.9209 | 0.8893 | 0.9561 | 0.9086 | 0.7786 | **0.9736** |
| Ionosphere | 0.7094 | 0.7635 | 0.6524 | 0.7524 | 0.8006 | 0.5527 | **0.8889** |
| Urbanlandcover | 0.3274 | 0.3631 | 0.4048 | 0.4583 | 0.4226 | 0.3155 | **0.7679** |
| SCADI | 0.4429 | 0.7168 | 0.7286 | 0.7857 | 0.7571 | 0.5167 | **0.8857** |
| Glass | 0.4907 | 0.5607 | 0.5607 | 0.5888 | 0.5467 | 0.4486 | **0.6028** |
| Sonar | 0.5529 | 0.6805 | 0.6298 | **0.7788** | 0.5433 | 0.5337 | **0.7788** |
| seeds | 0.8952 | 0.8476 | 0.8429 | 0.8952 | **0.9048** | 0.8190 | 0.9000 |
| Yale | 0.1125 | 0.5273 | 0.4970 | 0.5939 | **0.6909** | 0.1333 | 0.6545 |
| Coil20 | 0.2111 | 0.5604 | 0.5368 | 0.7563 | **0.8743** | 0.6757 | 0.7639 |
| ORL | 0.0525 | 0.5900 | 0.7175 | **0.8625** | 0.7250 | 0.2900 | 0.7325 |
| Binaryalphadigits | 0.1724 | 0.3882 | 0.4195 | 0.4786 | **0.5164** | 0.2728 | 0.3925 |
| Avg. | 0.5191 | 0.6589 | 0.6234 | 0.7454 | 0.7195 | 0.5467 | **0.7826** |

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| --- | --- | --- | --- | --- | --- | --- | --- |
| datasets | FCM |  | BDR | RJSFC | MEDC | LDP | **FSLFC** |
| Iris | 0.7496 | 0.8642 | 0.6378 | **0.9488** | 0.8846 | 0.9011 | 0.9144 |
| Liver | 0.0066 | 0.0344 | 0.0298 | 0.0478 | 0.0206 | 0.0035 | **0.1383** |
| Wine | 0.4168 | 0.5667 | 0.2487 | 0.6666 | 0.8211 | 0.4327 | **0.8926** |
| heart | 0.0173 | 0.2269 | 0.0345 | 0.3427 | 0.1125 | 0.0186 | **0.3627** |
| Segmentation | 0.5524 | 0.4249 | 0.5029 | 0.6528 | **0.7547** | 0.6771 | 0.7498 |
| Diabetics | 0.0027 | 0.0149 | 0.0053 | 0.1125 | 0.0213 | 0.0351 | **0.1627** |
| Diabetes | 0.0337 | 0.1297 | 0.0208 | 0.1299 | 0.1257 | 0.0132 | **0.1805** |
| wdbc | 0.4648 | 0.6521 | 0.4791 | 0.7321 | 0.5429 | 0.3191 | **0.8233** |
| Ionosphere | 0.1299 | 0.3932 | 0.1100 | **0.6528** | 0.2585 | 0.0875 | 0.4782 |
| Urbanlandcover | 0.2560 | 0.3250 | 0.3312 | 0.4333 | 0.3517 | 0.2633 | **0.7371** |
| SCADI | 0.3510 | 0.6135 | 0.6410 | 0.6971 | 0.6483 | 0.0127 | **0.8007** |
| Glass | 0.3593 | 0.3563 | 0.4176 | 0.3279 | **0.4493** | 0.2844 | 0.4369 |
| Sonar | 0.0088 | 0.1616 | 0.0475 | 0.2389 | 0.0162 | 0.0004 | **0.2532** |
| seeds | 0.6949 | 0.6481 | 0.5343 | 0.6825 | **0.7193** | 0.6307 | 0.7029 |
| Yale | 0.0867 | 0.6088 | 0.5379 | 0.5830 | **0.8738** | 0.0983 | 0.7155 |
| Coil20 | 0.4457 | 0.7276 | 0.7060 | 0.8645 | **0.9378** | 0.8606 | 0.8420 |
| ORL | 0.2595 | 0.7887 | 0.8435 | **0.9267** | 0.8686 | 0.5972 | 0.8711 |
| Binaryalphadigits | 0.3702 | 0.4738 | 0.5517 | 0.6245 | **0.6321** | 0.4526 | 0.5518 |
| Avg. | 0.2892 | 0.4328 | 0.3711 | 0.5369 | 0.5022 | 0.3160 | **0.5897** |

ACC noise

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| --- | --- | --- | --- | --- | --- | --- | --- |
| datasets | FCM |  | BDR | RJSFC | MEDC | LDP | **FSLFC** |
| Iris | 0.8933 | 0.6733 | 0.7400 | 0.9200 | **0.9** | 0.7267 | 0.9333 |
| Liver | 0.5262 | 0.5460 | 0.6017 | 0.6802 | 0.5785 | 0.5407 | **0.7151** |
| Wine | 0.6853 | 0.5899 | 0.6067 | 0.8820 | 0.8539 | 0.7135 | **0.9831** |
| heart | 0.5825 | 0.7879 | 0.6094 | 0.8114 | 0.6835 | 0.5522 | **0.8451** |
| Segmentation | 0.6619 | 0.5810 | 0.6095 | 0.7524 | **0.7714** | 0.5286 | 0.7762 |
| Diabetics | 0.5361 | 0.5500 | 0.5439 | 0.7081 | 0.5925 | 0.5152 | **0.6655** |
| Diabetes | 0.6589 | 0.6471 | 0.5208 | 0.7279 | 0.7096 | 0.6589 | **0.7591** |
| wdbc | 0.8541 | 0.8752 | 0.8893 | **0.9420** | 0.9121 | 0.8594 | 0.9350 |
| Ionosphere | 0.7094 | 0.7892 | 0.6553 | 0.8319 | 0.7892 | 0.5926 | **0.8604** |
| Urbanlandcover | 0.3274 | 0.3869 | 0.4048 | 0.5000 | 0.4107 | 0.3155 | **0.7024** |
| SCADI | 0.4429 | 0.6578 | 0.7143 | 0.8000 | **0.7286** | 0.4429 | 0.8000 |
| Glass | 0.4953 | 0.5187 | 0.5327 | **0.7571** | 0.5794 | 0.3486 | 0.5748 |
| Sonar | 0.5529 | 0.6058 | 0.5865 | **0.7308** | 0.6058 | 0.5481 | 0.7212 |
| seeds | 0.8952 | 0.4000 | 0.8429 | 0.8905 | 0.919 | 0.6190 | **0.9238** |
| Avg. | 0.6301 | 0.6149 | 0.6327 | 0.7810 | 0.7167 | 0.5687 | **0.7996** |

NMI noise

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| --- | --- | --- | --- | --- | --- | --- | --- |
| datasets | FCM |  | BDR | RJSFC | MEDC | LDP | **FSLFC** |
| Iris | 0.7496 | 0.6476 | 0.5672 | 0.7832 | 0.7869 | 0.7033 | **0.8071** |
| Liver | 0.0066 | 0.0049 | 0.0298 | 0.0842 | 0.0228 | 0.0035 | **0.1363** |
| Wine | 0.4168 | 0.3999 | 0.2501 | 0.6331 | 0.6043 | 0.4327 | **0.9276** |
| heart | 0.0173 | 0.2521 | 0.0345 | 0.3304 | 0.0986 | 0.0045 | **0.3798** |
| Segmentation | 0.5816 | 0.5217 | 0.49538 | 0.7104 | 0.7177 | 0.6771 | **0.7459** |
| Diabetics | 0.0029 | 0.0698 | 0.0051 | **0.1802** | 0.0231 | 0.0058 | 0.1325 |
| Diabetes | 0.0337 | 0.0029 | 0.0022 | 0.1495 | 0.1541 | 0.0132 | **0.1786** |
| wdbc | 0.4648 | 0.4438 | 0.4791 | **0.6687** | 0.5663 | 0.4771 | 0.6453 |
| Ionosphere | 0.1299 | 0.2218 | 0.0880 | 0.3207 | 0.236 | 0.0352 | **0.4278** |
| Urbanlandcover | 0.2637 | 0.3379 | 0.3350 | 0.4982 | 0.3486 | 0.2633 | **0.7510** |
| SCADI | 0.3423 | 0.5273 | 0.6331 | 0.6869 | 0.6233 | 0.0088 | **0.7164** |
| Glass | 0.3793 | 0.3667 | 0.3766 | **0.6155** | 0.4151 | 0.1544 | 0.4357 |
| Sonar | 0.0088 | 0.1272 | 0.0206 | **0.1642** | 0.0334 | 0.0096 | 0.1503 |
| seeds | 0.6949 | 0.0165 | 0.5542 | 0.6879 | **0.7602** | 0.5262 | 0.7472 |
| Avg. | 0.2923 | 0.2814 | 0.2765 | 0.4652 | 0.4104 | 0.2368 | **0.5130** |

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| --- | --- | --- | --- | --- | --- | --- |
| datasets | FCM | BDR | RJSFC | MEDC | LDP | **FSLFC** |
| Iris | 0.8933 | 0.7400 | 0.9200 | 0.9 | 0.7267 | **0.9333** |
| Liver | 0.5262 | 0.6017 | 0.6802 | 0.5785 | 0.5407 | **0.7151** |
| Wine | 0.6853 | 0.6067 | 0.8820 | 0.8539 | 0.7135 | **0.9831** |
| heart | 0.5825 | 0.6094 | 0.8114 | 0.6835 | 0.5522 | **0.8451** |
| Urbanlandcover | 0.3274 | 0.4048 | 0.5000 | 0.4107 | 0.3155 | **0.7024** |
| SCADI | 0.4429 | 0.7143 | **0.8000** | **0.7286** | 0.4429 | **0.8000** |
| Avg. | 0.5763 | 0.6128 | 0.7656 | 0.6925 | 0.5486 | 0.8298 |

NMI noise

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| --- | --- | --- | --- | --- | --- | --- |
| datasets | FCM | BDR | RJSFC | MEDC | LDP | **FSLFC** |
| Iris | 0.7496 | 0.5672 | 0.7832 | 0.7869 | 0.7033 | **0.8071** |
| Liver | 0.0066 | 0.0298 | 0.0842 | 0.0228 | 0.0035 | **0.1363** |
| Wine | 0.4168 | 0.2501 | 0.6331 | 0.6043 | 0.4327 | **0.9276** |
| heart | 0.0173 | 0.0345 | 0.3304 | 0.0986 | 0.0045 | **0.3798** |
| Urbanlandcover | 0.2637 | 0.3350 | 0.4982 | 0.3486 | 0.2633 | **0.7510** |
| SCADI | 0.3423 | 0.6331 | 0.6869 | 0.6233 | 0.0088 | **0.7164** |
| Avg. | 0.2994 | 0.3083 | 0.5027 | 0.4141 | 0.2360 | 0.6197 |