|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| OMI Model | CNN | RF | Fusion | Fusion w/ MLP |
| Rule Out Thresh  Sens > 0.90 | 0.17 | 0.28 | 0.04 | 0.17 |
| Rule In Thresh  PPV > 0.85 | 0.92 | 0.65 | 0.46 | 0.90 |
| F1 Thresh | 0.72 | 0.56 | 0.35 | 0.80 |
| Val AUC | 0.945  [0.913,0.972] | 0.943 [0.907,0.972] | 0.949 [0.918,0.976] | 0.935 [0.895,0.970] |
| Val AP | 0.779  [0.679,0.867] | 0.704 [0.579,0.829] | 0.782 [0.680,0.872] | 0.773 [0.677,0.865] |
| Val F1 | 0.765  [0.679,0.841] | 0.699 [0.593,0.794] | 0.766 [0.667,0.844] | 0.759 [0.661,0.842] |
| Val Sens | 0.772  [0.654,0.877] | 0.632 [0.508,0.754] | 0.719 [0.597,0.830] | 0.719 [0.603,0.833] |
| Val Spec | 0.980  [0.968,0.990] | 0.985 [0.977,0.993] | 0.987 [0.978,0.994] | 0.985 [0.976,0.994] |
| Val Acc | 0.964  [0.950,0.977] | 0.958 [0.945,0.970] | 0.966 [0.953,0.978] | 0.965 [0.950,0.977] |
| Val PPV | 0.759  [0.651,0.863] | 0.783 [0.667,0.896] | 0.820 [0.709,0.917] | 0.804 [0.696,0.909] |
| Val NPV | 0.981  [0.970,0.990] | 0.970 [0.956,0.981] | 0.977 [0.965,0.987] | 0.977 [0.965,0.987] |
| Test AUC | 0.939  [0.900,0.971] | 0.926 [0.875,0.965] | 0.939 [0.894,0.974] | 0.960 [0.931,0.983] |
| Test AP | 0.819  [0.730,0.899] | 0.812 [0.717,0.889] | 0.838 [0.755,0.911] | 0.848 [0.767,0.918] |
| Test F1 | 0.746  [0.650,0.823] | 0.750 [0.646,0.833] | 0.790 [0.708,0.866] | 0.807 [0.726,0.879] |
| Test Sens | 0.758  [0.644,0.860] | 0.629 [0.500,0.750] | 0.758 [0.649,0.862] | 0.774 [0.667,0.873] |
| Test Spec | 0.975  [0.963,0.985] | 0.996 [0.990,1.000] | 0.985 [0.976,0.994] | 0.987 [0.978,0.995] |
| Test Acc | 0.957  [0.941,0.970] | 0.965 [0.953,0.977] | 0.966 [0.954,0.980] | 0.969 [0.957,0.981] |
| Test PPV | 0.734  [0.623,0.833] | 0.929 [0.844,1.000] | 0.825 [0.727,0.926] | 0.842 [0.742,0.933] |
| Test NPV | 0.978  [0.966,0.988] | 0.967 [0.954,0.980] | 0.978 [0.967,0.988] | 0.980 [0.969,0.989] |
| High Confidence - | 537 (6) | 574 (9) | 573 (8) | 541 (6) |
| Low Confidence - | 140 (9) | 125 (14) | 111 (7) | 143 (8) |
| Low Confidence + | 23 (9) | 5 (2) | 9 (3) | 12 (8) |
| High Confidence + | 41 (38) | 37 (37) | 48 (44) | 45 (40) |

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| ACS Model | CNN | RF | Fusion | Fusion w/ MLP |
| Rule Out Thresh  Sens > 0.90 | 0.20 | 0.24 | 0.07 | 0.17 |
| Rule In Thresh  PPV > 0.85 | 0.88 | 0.64 | 0.57 | 0.71 |
| F1 Thresh | 0.64 | 0.46 | 0.31 | 0.44 |
| Val AUC | 0.867 [0.833,0.904] | 0.861 [0.823,0.895] | 0.884 [0.851,0.915] | 0.882 [0.847,0.914] |
| Val AP | 0.687 [0.612,0.761] | 0.663 [0.587,0.738] | 0.711 [0.637,0.781] | 0.713 [0.645,0.785] |
| Val F1 | 0.632 [0.559,0.703] | 0.581 [0.500,0.656] | 0.658 [0.581,0.729] | 0.645 [0.578,0.709] |
| Val Sens | 0.595 [0.504,0.686] | 0.545 [0.451,0.636] | 0.620 [0.530,0.712] | 0.661 [0.583,0.748] |
| Val Spec | 0.943 [0.925,0.962] | 0.935 [0.917,0.953] | 0.948 [0.930,0.965] | 0.924 [0.905,0.944] |
| Val Acc | 0.886 [0.862,0.908] | 0.872 [0.847,0.895] | 0.895 [0.873,0.916] | 0.881 [0.858,0.901] |
| Val PPV | 0.673 [0.588,0.765] | 0.623 [0.536,0.721] | 0.701 [0.618,0.782] | 0.630 [0.554,0.721] |
| Val NPV | 0.923 [0.901,0.944] | 0.913 [0.889,0.934] | 0.927 [0.907,0.947] | 0.933 [0.913,0.952] |
| Test AUC | 0.855 [0.811,0.897] | 0.870 [0.829,0.906] | 0.878 [0.838,0.915] | 0.878 [0.834,0.916] |
| Test AP | 0.706 [0.631,0.774] | 0.710 [0.638,0.779] | 0.732 [0.662,0.799] | 0.749 [0.680,0.814] |
| Test F1 | 0.626 [0.551,0.690] | 0.603 [0.524,0.677] | 0.645 [0.571,0.712] | 0.645 [0.569,0.712] |
| Test Sens | 0.608 [0.517,0.692] | 0.560 [0.473,0.651] | 0.648 [0.560,0.731] | 0.648 [0.561,0.731 |
| Test Spec | 0.932 [0.912,0.952] | 0.940 [0.918,0.958] | 0.927 [0.905,0.948] | 0.927 [0.906,0.947] |
| Test Acc | 0.877 [0.853,0.900] | 0.876 [0.852,0.900] | 0.880 [0.854,0.903] | 0.880 [0.854,0.904] |
| Test PPV | 0.644 [0.556,0.734] | 0.654 [0.561,0.747] | 0.643 [0.558,0.731] | 0.643 [0.556,0.727] |
| Test NPV | 0.921 [0.900,0.941] | 0.913 [0.892,0.936] | 0.928 [0.908,0.948] | 0.928 [0.908,0.949] |
| High Confidence - | 391 (16) | 373 (13) | 406 (15) | 395 (12) |
| Low Confidence - | 232 (33) | 261 (42) | 209 (29) | 220 (32) |
| Low Confidence + | 57 (21) | 59 (24) | 61 (24) | 66 (25) |
| High Confidence + | 61 (55) | 48 (46) | 65 (57) | 60 (56) |

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| MACE Model | CNN | RF | Fusion | Fusion w/ MLP |
| Rule Out Thresh  Sens > 0.90 | 0.24 | 0.21 | 0.09 | 0.1 |
| Rule In Thresh  PPV > 0.60 | 0.91 | 0.67 | 0.45 | 0.94 |
| F1 Thresh | 0.59 | 0.42 | 0.27 | 0.4 |
| Val AUC | 0.760 [0.713,0.805] | 0.800 [0.754,0.842] | 0.804 [0.761,0.845] | 0.802 [0.759,0.844] |
| Val AP | 0.375 [0.300,0.471] | 0.422 [0.342,0.521] | 0.439 [0.357,0.543] | 0.448 [0.362,0.544] |
| Val F1 | 0.422 [0.348,0.495] | 0.490 [0.413,0.562] | 0.471 [0.386,0.547] | 0.486 [0.414,0.552] |
| Val Sens | 0.513 [0.427,0.604] | 0.655 [0.562,0.742] | 0.504 [0.407,0.594] | 0.673 [0.582,0.759] |
| Val Spec | 0.829 [0.799,0.859] | 0.811 [0.779,0.842] | 0.882 [0.856,0.906] | 0.796 [0.765,0.827] |
| Val Acc | 0.780 [0.749,0.809] | 0.787 [0.753,0.817] | 0.823 [0.795,0.850] | 0.777 [0.745,0.806] |
| Val PPV | 0.358 [0.286,0.433] | 0.392 [0.322,0.462] | 0.442 [0.352,0.536] | 0.380 [0.315,0.450] |
| Val NPV | 0.902 [0.876,0.926] | 0.927 [0.904,0.948] | 0.906 [0.881,0.929] | 0.929 [0.906,0.950] |
| Test AUC | 0.778 [0.736,0.820] | 0.798 [0.759,0.835] | 0.803 [0.765,0.841] | 0.804 [0.765,0.842] |
| Test AP | 0.432 [0.360,0.521] | 0.455 [0.375,0.541] | 0.467 [0.385,0.556] | 0.473 [0.390,0.562] |
| Test F1 | 0.467 [0.389,0.537] | 0.490 [0.420,0.559] | 0.451 [0.379,0.522] | 0.488 [0.422,0.550] |
| Test Sens | 0.508 [0.418,0.592] | 0.576 [0.492,0.653] | 0.439 [0.356,0.516] | 0.614 [0.533,0.691] |
| Test Spec | 0.851 [0.822,0.880] | 0.827 [0.795,0.858] | 0.887 [0.861,0.913] | 0.799 [0.765,0.833] |
| Test Acc | 0.788 [0.758,0.822] | 0.781 [0.751,0.813] | 0.805 [0.777,0.835] | 0.765 [0.732,0.797] |
| Test PPV | 0.432 [0.357,0.519] | 0.427 [0.355,0.500] | 0.464 [0.381,0.555] | 0.405 [0.339,0.474] |
| Test NPV | 0.886 [0.859,0.914] | 0.897 [0.873,0.922] | 0.876 [0.851,0.902] | 0.902 [0.879,0.927] |
| High Confidence - | 277 (15) | 311 (12) | 338 (16) | 297 (12) |
| Low Confidence - | 291 (50) | 234 (44) | 260 (58) | 226 (39) |
| Low Confidence + | 148 (62) | 147 (59) | 94 (41) | 188 (73) |
| High Confidence + | 7 (5) | 31 (17) | 31 (17) | 12 (8) |

|  |  |  |
| --- | --- | --- |
| Survival Model | CD-AUC | Silhouette Score |
| 5-fold CV | 0.777 | 0.563 |
| Internal Test | 0.732 | 0.539 |
| Medic | - | 0.479 |

A graph of different colored lines

AI-generated content may be incorrect.

A graph of a graph

AI-generated content may be incorrect.

A graph of a graph

AI-generated content may be incorrect.

Inhospital + 30day MACE on test set

A graph of a number of data

AI-generated content may be incorrect.