

|                   |                   | Peak Signal-to-Noise Ratio (PSNR) |                  |                  |                  |                  |                  |
|-------------------|-------------------|-----------------------------------|------------------|------------------|------------------|------------------|------------------|
| Dataset           |                   | INBreast                          |                  | MIAS             |                  | VinDr-Mammo      |                  |
| Missing Mechanism |                   | MCAR                              | MNAR             | MCAR             | MNAR             | MCAR             | MNAR             |
| Missing Rate      | Inpainting Method |                                   |                  |                  |                  |                  |                  |
| 5%                | KNN               | 25.5276 ± 0.115                   | 29.1575 ± 0.2649 | 27.8781 ± 0.2123 | 28.8786 ± 0.2541 | 29.6338 ± 0.2005 | 31.0405 ± 0.1994 |
|                   | MAE-ViT           | 20.9387 ± 0.1943                  | 20.5354 ± 0.3686 | 18.8902 ± 0.2224 | 18.2356 ± 0.1783 | 18.5387 ± 0.167  | 17.903 ± 0.0672  |
|                   | MAE-ViT-GAN       | 24.2416 ± 0.3194                  | 24.4227 ± 0.4084 | 22.7597 ± 0.5085 | 23.2339 ± 0.6808 | 22.8154 ± 0.4503 | 23.2157 ± 0.4703 |
|                   | MC                | 22.7221 ± 0.2306                  | 23.7954 ± 0.2871 | 23.4463 ± 0.1858 | 23.616 ± 0.215   | 23.1669 ± 0.1327 | 23.6543 ± 0.0728 |
|                   | median            | 11.7508 ± 0.3462                  | 11.5963 ± 0.3958 | 9.4821 ± 0.2815  | 8.634 ± 0.2817   | 6.2222 ± 0.1448  | 4.9614 ± 0.179   |
|                   | VAEWL             | 17.1966 ± 0.355                   | 17.5237 ± 0.4757 | 12.3053 ± 0.1745 | 12.1668 ± 0.245  | 10.1291 ± 0.2347 | 9.6193 ± 0.1345  |
| 10%               | KNN               | 25.3824 ± 0.102                   | 29.0402 ± 0.1621 | 27.6735 ± 0.231  | 28.757 ± 0.3066  | 29.3241 ± 0.2555 | 30.7838 ± 0.2042 |
|                   | MAE-ViT           | 21.014 ± 0.2036                   | 20.5037 ± 0.2551 | 18.9876 ± 0.0926 | 18.472 ± 0.1397  | 18.4425 ± 0.1222 | 17.8002 ± 0.1411 |
|                   | MAE-ViT-GAN       | 24.2512 ± 0.3906                  | 24.869 ± 0.5332  | 23.1606 ± 0.4638 | 23.1719 ± 0.3761 | 22.6035 ± 0.3656 | 23.2764 ± 0.2152 |
|                   | MC                | 22.5783 ± 0.2038                  | 23.6969 ± 0.2183 | 23.4168 ± 0.1923 | 23.6071 ± 0.1726 | 23.0938 ± 0.1573 | 23.5603 ± 0.1023 |
|                   | median            | 11.7443 ± 0.338                   | 11.5851 ± 0.3566 | 9.4892 ± 0.2658  | 8.6537 ± 0.3083  | 6.2108 ± 0.149   | 4.9531 ± 0.1974  |
|                   | VAEWL             | 17.189 ± 0.3423                   | 17.5441 ± 0.4465 | 12.2871 ± 0.188  | 12.1784 ± 0.2463 | 10.1243 ± 0.2278 | 9.6182 ± 0.1381  |
| 20%               | KNN               | 25.2672 ± 0.0898                  | 28.7709 ± 0.1532 | 27.376 ± 0.2156  | 28.7449 ± 0.204  | 28.8083 ± 0.1947 | 30.4651 ± 0.1497 |
|                   | MAE-ViT           | 20.8963 ± 0.3064                  | 20.4434 ± 0.2216 | 18.9871 ± 0.2674 | 18.35 ± 0.1353   | 18.4137 ± 0.1898 | 17.8505 ± 0.0764 |
|                   | MAE-ViT-GAN       | 24.3648 ± 0.2371                  | 24.4593 ± 0.5761 | 23.1528 ± 0.2929 | 23.1793 ± 0.8731 | 22.7629 ± 0.2472 | 23.2185 ± 0.3818 |
|                   | MC                | 22.4341 ± 0.201                   | 23.5357 ± 0.3408 | 23.3429 ± 0.1767 | 23.5449 ± 0.1583 | 22.9329 ± 0.1497 | 23.4528 ± 0.1241 |
|                   | median            | 11.754 ± 0.3436                   | 11.5811 ± 0.3648 | 9.4861 ± 0.283   | 8.6429 ± 0.3139  | 6.2102 ± 0.149   | 4.9547 ± 0.1796  |
|                   | VAEWL             | 17.1819 ± 0.334                   | 17.5385 ± 0.4657 | 12.2993 ± 0.1822 | 12.1904 ± 0.248  | 10.1223 ± 0.2287 | 9.6125 ± 0.1336  |
| 30%               | KNN               | 25.0928 ± 0.0712                  | 28.5624 ± 0.154  | 27.0799 ± 0.1961 | 28.4473 ± 0.2123 | 28.2285 ± 0.2147 | 30.0826 ± 0.1692 |
|                   | MAE-ViT           | 20.8506 ± 0.1703                  | 20.4611 ± 0.1779 | 18.8634 ± 0.3078 | 18.3134 ± 0.0653 | 18.4247 ± 0.0779 | 17.7837 ± 0.0207 |
|                   | MAE-ViT-GAN       | 24.3412 ± 0.4393                  | 24.5886 ± 0.4363 | 23.2781 ± 0.4258 | 23.4647 ± 0.4402 | 22.8963 ± 0.4198 | 23.4513 ± 0.0976 |
|                   | MC                | 22.1796 ± 0.2309                  | 23.4175 ± 0.325  | 23.2929 ± 0.1566 | 23.4609 ± 0.1399 | 22.7219 ± 0.1578 | 23.3215 ± 0.1103 |
|                   | median            | 11.762 ± 0.3389                   | 11.5887 ± 0.377  | 9.476 ± 0.2763   | 8.649 ± 0.3053   | 6.2133 ± 0.148   | 4.9563 ± 0.188   |
|                   | VAEWL             | 17.183 ± 0.3384                   | 17.5361 ± 0.4736 | 12.295 ± 0.1864  | 12.1785 ± 0.2424 | 10.1295 ± 0.2313 | 9.6174 ± 0.135   |
| 40%               | KNN               | 24.7999 ± 0.0807                  | 28.3458 ± 0.1245 | 26.6518 ± 0.1668 | 28.2795 ± 0.2082 | 27.49 ± 0.1677   | 29.6128 ± 0.1634 |
|                   | MAE-ViT           | 20.8932 ± 0.2108                  | 20.5531 ± 0.275  | 19.0647 ± 0.0505 | 18.2143 ± 0.354  | 18.5034 ± 0.1793 | 17.8538 ± 0.0788 |
|                   | MAE-ViT-GAN       | 24.2086 ± 0.1796                  | 24.3656 ± 0.3395 | 23.3514 ± 0.2813 | 23.1582 ± 0.7306 | 22.8877 ± 0.4358 | 23.2132 ± 0.2442 |
|                   | MC                | 21.8911 ± 0.2079                  | 23.3165 ± 0.336  | 23.1909 ± 0.173  | 23.3579 ± 0.1416 | 22.4565 ± 0.1625 | 23.1369 ± 0.1103 |
|                   | median            | 11.7574 ± 0.3388                  | 11.5853 ± 0.3754 | 9.4828 ± 0.2795  | 8.6419 ± 0.2981  | 6.2086 ± 0.1511  | 4.9563 ± 0.1887  |
|                   | VAEWL             | 17.1843 ± 0.3474                  | 17.5396 ± 0.4638 | 12.2957 ± 0.1876 | 12.1815 ± 0.2439 | 10.1241 ± 0.2295 | 9.615 ± 0.1372   |
| 50%               | KNN               | 24.4434 ± 0.0868                  | 28.0184 ± 0.1196 | 26.1333 ± 0.2037 | 27.924 ± 0.1735  | 26.5139 ± 0.1267 | 29.0651 ± 0.139  |
|                   | MAE-ViT           | 20.9249 ± 0.17                    | 20.4421 ± 0.2752 | 18.9122 ± 0.2018 | 18.3319 ± 0.3545 | 18.4532 ± 0.2255 | 17.7074 ± 0.0913 |
|                   | MAE-ViT-GAN       | 24.3688 ± 0.3187                  | 24.562 ± 0.3791  | 23.0856 ± 0.4497 | 22.9454 ± 0.3743 | 22.8794 ± 0.4041 | 23.3353 ± 0.2444 |
|                   | MC                | 21.5578 ± 0.2237                  | 23.1593 ± 0.3567 | 23.0704 ± 0.1559 | 23.2408 ± 0.1532 | 22.1245 ± 0.1758 | 22.9346 ± 0.1066 |
|                   | median            | 11.7591 ± 0.3387                  | 11.5872 ± 0.3701 | 9.4866 ± 0.2859  | 8.6418 ± 0.2997  | 6.2146 ± 0.148   | 4.9576 ± 0.1887  |
|                   | VAEWL             | 17.185 ± 0.3411                   | 17.5342 ± 0.461  | 12.2937 ± 0.1819 | 12.1874 ± 0.2456 | 10.1253 ± 0.2304 | 9.6139 ± 0.1331  |