# CNN MODEL REPORT

CLASSIFICATION ACCURACY ASSESSMENT REPORT  
-----------------------------------------  
Image File : /content/drive/My Drive/Accuracy\_assessment/cnn\_them.img  
User Name : root  
Date : Fri Jun 20 10:22:01 2025  
  
  
  
ERROR MATRIX  
------------  
 Reference Data  
 --------------  
Classified Data  
---------------  
 Water Agriculture & Vegetation Settlement Mining Barren Land Forest  
Water 16 0 0 0 0 1  
Agriculture & Vegetation 3 18 3 0 2 1  
Settlement 0 0 10 0 1 0  
Mining 0 0 0 14 0 0  
Barren Land 0 0 2 1 14 0  
Forest 1 2 5 5 3 18  
  
 Water Agriculture & Vegetation Settlement Mining Barren Land Forest  
Row Total 17 27 11 14 17 34  
Column Total 20 20 20 20 20 20  
  
  
 ----- End of Error Matrix -----  
  
  
ACCURACY TOTALS  
----------------  
 Class Name Reference Totals Classified Totals Number Correct Producers Accuracy Users Accuracy  
 Water 20 17 16 80.00% 94.12%  
Agriculture & Vegetation 20 27 18 90.00% 66.67%  
 Settlement 20 11 10 50.00% 90.91%  
 Mining 20 14 14 70.00% 100.00%  
 Barren Land 20 17 14 70.00% 82.35%  
 Forest 20 34 18 90.00% 52.94%  
  
  
Overall Classification Accuracy = 75.00%  
  
  
 ----- End of Accuracy Totals -----  
  
  
KAPPA (K^) STATISTICS  
---------------------  
Overall Kappa Statistics = 0.7000  
  
Conditional Kappa for each Category.  
------------------------------------  
 Class Name Kappa  
 Water 0.7670  
Agriculture & Vegetation 0.8710  
 Settlement 0.4495  
 Mining 0.6604  
 Barren Land 0.6505  
 Forest 0.8605

----- End of Kappa Statistics -----

# RANDOM FOREST MODEL REPORT

CLASSIFICATION ACCURACY ASSESSMENT REPORT  
-----------------------------------------  
Image File : /content/drive/My Drive/Accuracy\_assessment/rf\_them.img  
User Name : root  
Date : Fri Jun 20 10:22:01 2025  
  
  
  
ERROR MATRIX  
------------  
 Reference Data  
 --------------  
Classified Data  
---------------  
 Water Agriculture & Vegetation Settlement Mining Barren Land Forest  
Water 15 1 1 0 0 0  
Agriculture & Vegetation 1 21 4 1 0 0  
Settlement 0 5 4 0 2 0  
Mining 0 0 1 10 3 0  
Barren Land 0 7 2 0 8 0  
Forest 0 7 5 1 5 16  
  
 Water Agriculture & Vegetation Settlement Mining Barren Land Forest  
Row Total 17 27 11 14 17 34  
Column Total 16 41 17 12 18 16  
  
  
 ----- End of Error Matrix -----  
  
  
ACCURACY TOTALS  
----------------  
 Class Name Reference Totals Classified Totals Number Correct Producers Accuracy Users Accuracy  
 Water 16 17 15 93.75% 88.24%  
Agriculture & Vegetation 41 27 21 51.22% 77.78%  
 Settlement 17 11 4 23.53% 36.36%  
 Mining 12 14 10 83.33% 71.43%  
 Barren Land 18 17 8 44.44% 47.06%  
 Forest 16 34 16 100.00% 47.06%  
  
  
Overall Classification Accuracy = 61.67%  
  
  
 ----- End of Accuracy Totals -----  
  
  
KAPPA (K^) STATISTICS  
---------------------  
Overall Kappa Statistics = 0.5328  
  
Conditional Kappa for each Category.  
------------------------------------  
 Class Name Kappa  
 Water 0.9272  
Agriculture & Vegetation 0.3706  
 Settlement 0.1581  
 Mining 0.8113  
 Barren Land 0.3528  
 Forest 1.0000  
  
  
 ----- End of Kappa Statistics -----

# Raw Reference Data

The raw data collected during the interactive session.

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| ref\_x | ref\_y | reference\_class | cnn\_class | rf\_class |
| 8958 | 7640 | 2 | 1 | 1 |
| 6238 | 1759 | 1 | 1 | 1 |
| 6346 | 1375 | 6 | 1 | 2 |
| 9129 | 7393 | 1 | 1 | 1 |
| 9031 | 7384 | 1 | 1 | 1 |
| 9218 | 3795 | 1 | 1 | 1 |
| 9549 | 7161 | 1 | 1 | 1 |
| 8630 | 7757 | 1 | 1 | 1 |
| 9739 | 7404 | 1 | 1 | 1 |
| 8597 | 7506 | 1 | 1 | 1 |
| 8780 | 7647 | 1 | 1 | 1 |
| 9221 | 7423 | 1 | 1 | 1 |
| 8872 | 7795 | 2 | 1 | 4 |
| 9781 | 7852 | 1 | 1 | 1 |
| 9542 | 7567 | 1 | 1 | 1 |
| 10173 | 7785 | 2 | 1 | 3 |
| 1339 | 6695 | 1 | 1 | 1 |
| 9524 | 7610 | 1 | 1 | 1 |
| 7686 | 8026 | 1 | 1 | 3 |
| 8802 | 7567 | 1 | 1 | 1 |
| 3052 | 5790 | 2 | 2 | 2 |
| 7502 | 4369 | 2 | 2 | 2 |
| 7995 | 4285 | 2 | 2 | 2 |
| 7443 | 1099 | 2 | 2 | 2 |
| 4965 | 5887 | 6 | 2 | 2 |
| 4737 | 2773 | 2 | 2 | 2 |
| 7422 | 7020 | 2 | 2 | 2 |
| 5803 | 6163 | 2 | 2 | 2 |
| 5243 | 4172 | 2 | 2 | 2 |
| 1931 | 7623 | 2 | 2 | 2 |
| 6650 | 654 | 2 | 2 | 2 |
| 5191 | 5385 | 2 | 2 | 2 |
| 9130 | 3799 | 2 | 2 | 2 |
| 3582 | 5795 | 6 | 2 | 2 |
| 7022 | 490 | 2 | 2 | 2 |
| 9725 | 1410 | 2 | 2 | 2 |
| 7147 | 8950 | 2 | 2 | 2 |
| 4003 | 8619 | 2 | 2 | 2 |
| 8741 | 636 | 2 | 2 | 2 |
| 1414 | 6968 | 2 | 2 | 2 |
| 8127 | 760 | 6 | 3 | 2 |
| 8372 | 266 | 6 | 3 | 3 |
| 6332 | 3799 | 2 | 3 | 2 |
| 6539 | 6773 | 6 | 3 | 2 |
| 9142 | 5943 | 3 | 3 | 5 |
| 7701 | 5455 | 3 | 3 | 3 |
| 8743 | 6977 | 3 | 3 | 3 |
| 9221 | 8089 | 3 | 3 | 2 |
| 9119 | 6237 | 5 | 3 | 3 |
| 6925 | 6519 | 5 | 3 | 2 |
| 9313 | 4736 | 6 | 3 | 3 |
| 8352 | 7823 | 3 | 3 | 3 |
| 8760 | 8094 | 2 | 3 | 2 |
| 9537 | 7835 | 3 | 3 | 2 |
| 9113 | 5831 | 3 | 3 | 5 |
| 9294 | 8136 | 3 | 3 | 3 |
| 4782 | 3606 | 6 | 3 | 6 |
| 7784 | 8132 | 2 | 3 | 3 |
| 5462 | 8436 | 3 | 3 | 2 |
| 3232 | 4558 | 3 | 3 | 2 |
| 5921 | 7821 | 4 | 4 | 4 |
| 6358 | 6793 | 6 | 4 | 5 |
| 8328 | 6074 | 4 | 4 | 4 |
| 8481 | 6293 | 4 | 4 | 3 |
| 7302 | 5573 | 4 | 4 | 4 |
| 8355 | 6035 | 5 | 4 | 5 |
| 8801 | 5906 | 4 | 4 | 4 |
| 8040 | 6490 | 4 | 4 | 4 |
| 7844 | 6351 | 4 | 4 | 4 |
| 5003 | 8558 | 4 | 4 | 4 |
| 8783 | 5896 | 4 | 4 | 4 |
| 9422 | 5521 | 4 | 4 | 5 |
| 6290 | 6835 | 6 | 4 | 4 |
| 7845 | 6394 | 4 | 4 | 5 |
| 8014 | 6271 | 4 | 4 | 5 |
| 9202 | 6061 | 4 | 4 | 4 |
| 9281 | 5875 | 6 | 4 | 3 |
| 9359 | 6151 | 6 | 4 | 5 |
| 9099 | 6148 | 4 | 4 | 4 |
| 8518 | 5695 | 6 | 4 | 3 |
| 9011 | 5132 | 2 | 5 | 3 |
| 9514 | 1244 | 5 | 5 | 5 |
| 6942 | 5363 | 2 | 5 | 2 |
| 7473 | 6235 | 6 | 5 | 5 |
| 1523 | 6449 | 5 | 5 | 2 |
| 7217 | 8281 | 5 | 5 | 2 |
| 2130 | 6485 | 5 | 5 | 2 |
| 9851 | 7900 | 5 | 5 | 5 |
| 8073 | 1818 | 5 | 5 | 5 |
| 7756 | 5749 | 5 | 5 | 5 |
| 4014 | 5251 | 6 | 5 | 5 |
| 9396 | 5991 | 5 | 5 | 3 |
| 8232 | 7277 | 3 | 5 | 2 |
| 6757 | 6586 | 5 | 5 | 2 |
| 8301 | 1704 | 5 | 5 | 5 |
| 8962 | 5843 | 5 | 5 | 5 |
| 3841 | 5219 | 5 | 5 | 2 |
| 9676 | 5189 | 5 | 5 | 2 |
| 8115 | 6108 | 5 | 5 | 5 |
| 9390 | 4454 | 6 | 5 | 5 |
| 5499 | 7355 | 6 | 6 | 6 |
| 5090 | 9332 | 6 | 6 | 6 |
| 8610 | 4839 | 6 | 6 | 3 |
| 6918 | 9246 | 6 | 6 | 2 |
| 5888 | 7656 | 6 | 6 | 2 |
| 5999 | 2343 | 6 | 6 | 6 |
| 6870 | 9583 | 6 | 6 | 6 |
| 5597 | 6955 | 6 | 6 | 6 |
| 2159 | 6159 | 6 | 6 | 6 |
| 6067 | 3017 | 1 | 6 | 2 |
| 6434 | 9499 | 6 | 6 | 6 |
| 4939 | 7055 | 6 | 6 | 6 |
| 6465 | 9577 | 6 | 6 | 6 |
| 4482 | 6547 | 6 | 6 | 6 |
| 9081 | 8790 | 2 | 6 | 3 |
| 8460 | 2828 | 6 | 6 | 6 |
| 5691 | 4248 | 6 | 6 | 6 |
| 5634 | 7574 | 6 | 6 | 6 |
| 8290 | 9628 | 6 | 6 | 6 |
| 2122 | 6161 | 6 | 6 | 6 |