



### ADASYN:

CNN architecture	Test Accuracy	Confusion Matrix
MobileNetV2	accuracy: 0.9150 - loss: 0.1541	<pre> Matrice de confusion : [[15  0  3]  [ 0 12  1]  [ 1  0 30]] Rapport de classification :       precision    recall  f1-score   support  Healthy      0.94      0.83      0.88        18 septoria     1.00      0.92      0.96        13 stripe_rust   0.88      0.97      0.92        31  accuracy      0.94      0.91      0.92        62 macro avg     0.94      0.91      0.92        62 weighted avg  0.92      0.92      0.92        62           </pre>
ResNet50V2	accuracy: 0.9573 - loss: 0.1306	<pre> Matrice de confusion : [[17  0  1]  [ 0 12  1]  [ 0  1 30]] Rapport de classification :       precision    recall  f1-score   support  Healthy      1.00      0.94      0.97        18 septoria     0.92      0.92      0.92        13 stripe_rust   0.94      0.97      0.95        31  accuracy      0.95      0.95      0.95        62 macro avg     0.95      0.95      0.95        62 weighted avg  0.95      0.95      0.95        62           </pre>
ResNet52V2	Currently, ResNet50V2 is available, and there isn't a ResNet52V2 model in the official TensorFlow/Keras	

	applications.	
DenseNet121	accuracy: 0.9785 loss: 0.0422	<pre> Matrice de confusion : [[18  0  0]  [ 0 11  2]  [ 0  0 31]] Rapport de classification :       precision    recall  f1-score   support   Healthy         1.00        1.00        1.00         18   septoria         1.00        0.85        0.92         13  stripe_rust       0.94        1.00        0.97         31   accuracy          0.98        0.95        0.96         62  macro avg         0.98        0.95        0.96         62  weighted avg      0.97        0.97        0.97         62 </pre>
DenseNet169	accuracy: 0.9577 - loss: 0.0878	<pre> Matrice de confusion : [[16  0  2]  [ 0 13  0]  [ 0  0 31]] Rapport de classification :       precision    recall  f1-score   support   Healthy         1.00        0.89        0.94         18   septoria         1.00        1.00        1.00         13  stripe_rust       0.94        1.00        0.97         31   accuracy          0.98        0.96        0.97         62  macro avg         0.98        0.96        0.97         62  weighted avg      0.97        0.97        0.97         62 </pre>
Xception	accuracy: 0.9577 loss: 0.1340	<pre> Matrice de confusion : [[17  0  1]  [ 0 13  0]  [ 1  0 30]] Rapport de classification :       precision    recall  f1-score   support   Healthy         0.94        0.94        0.94         18   septoria         1.00        1.00        1.00         13  stripe_rust       0.97        0.97        0.97         31   accuracy          0.97        0.97        0.97         62  macro avg         0.97        0.97        0.97         62  weighted avg      0.97        0.97        0.97         62 </pre>

## SMOTE:

CNN architecture	Test Accuracy	Confusion Matrix
MobileNetV2	accuracy: 0.9150 loss: 0.1649	<pre> Matrice de confusion : [[15  0  3]  [ 0 12  1]  [ 1  0 30]] Rapport de classification :       precision    recall  f1-score   support   Healthy         0.94        0.83        0.88         18   septoria         1.00        0.92        0.96         13  stripe_rust       0.88        0.97        0.92         31   accuracy          0.94        0.91        0.92         62  macro avg         0.94        0.91        0.92         62  weighted avg      0.92        0.92        0.92         62 </pre>

ResNet50V2	accuracy: 0.9362 loss: 0.0972	<pre> Matrice de confusion : [[16  0  2]  [ 0 12  1]  [ 1  0 30]] Rapport de classification :       precision    recall  f1-score   support   Healthy      0.94      0.89      0.91      18  septoria     1.00      0.92      0.96      13  stripe_rust   0.91      0.97      0.94      31   accuracy      0.94      0.94      0.94      62  macro avg     0.95      0.93      0.94      62  weighted avg  0.94      0.94      0.94      62 </pre>
ResNet52V2		
DenseNet121	accuracy: 0.9785 loss: 0.0427	<pre> Matrice de confusion : [[18  0  0]  [ 0 11  2]  [ 0  0 31]] Rapport de classification :       precision    recall  f1-score   support   Healthy      1.00      1.00      1.00      18  septoria     1.00      0.85      0.92      13  stripe_rust   0.94      1.00      0.97      31   accuracy      0.97      0.97      0.97      62  macro avg     0.98      0.95      0.96      62  weighted avg  0.97      0.97      0.97      62 </pre>
DenseNet169	accuracy: 0.9577 loss: 0.1091	<pre> Matrice de confusion : [[16  0  2]  [ 0 13  0]  [ 0  0 31]] Rapport de classification :       precision    recall  f1-score   support   Healthy      1.00      0.89      0.94      18  septoria     1.00      1.00      1.00      13  stripe_rust   0.94      1.00      0.97      31   accuracy      0.97      0.97      0.97      62  macro avg     0.98      0.96      0.97      62  weighted avg  0.97      0.97      0.97      62 </pre>
Xception	accuracy: 0.9788 loss: 0.1208	<pre> Matrice de confusion : [[18  0  0]  [ 0 13  0]  [ 1  0 30]] Rapport de classification :       precision    recall  f1-score   support   Healthy      0.95      1.00      0.97      18  septoria     1.00      1.00      1.00      13  stripe_rust   1.00      0.97      0.98      31   accuracy      0.98      0.98      0.98      62  macro avg     0.98      0.99      0.99      62  weighted avg  0.98      0.98      0.98      62 </pre>

### SMOTETomek:

CNN architecture	Test Accuracy	Confusion Matrix
MobileNetV2	accuracy: 0.9362 loss: 0.1194	<pre> Matrice de confusion : [[16  0  2]  [ 0 12  1]  [ 1  0 30]] Rapport de classification :       precision    recall  f1-score   support   Healthy      0.94      0.89      0.91      18  septoria     1.00      0.92      0.96      13  stripe_rust   0.91      0.97      0.94      31   accuracy      0.94      0.94      0.94      62  macro avg     0.95      0.93      0.94      62  weighted avg  0.94      0.94      0.94      62 </pre>

ResNet50V2	accuracy: 0.9362 - loss: 0.1118	<div>Matrice de confusion : [[16  0  2] [ 0 12  1] [ 1  0 30]] Rapport de classification : <table><thead><tr><th></th><th>precision</th><th>recall</th><th>f1-score</th><th>support</th></tr></thead><tbody><tr><td>Healthy</td><td>0.94</td><td>0.89</td><td>0.91</td><td>18</td></tr><tr><td>septoria</td><td>1.00</td><td>0.92</td><td>0.96</td><td>13</td></tr><tr><td>stripe_rust</td><td>0.91</td><td>0.97</td><td>0.94</td><td>31</td></tr><tr><td>accuracy</td><td></td><td></td><td>0.94</td><td>62</td></tr><tr><td>macro avg</td><td>0.95</td><td>0.93</td><td>0.94</td><td>62</td></tr><tr><td>weighted avg</td><td>0.94</td><td>0.94</td><td>0.94</td><td>62</td></tr></tbody></table></div>		precision	recall	f1-score	support	Healthy	0.94	0.89	0.91	18	septoria	1.00	0.92	0.96	13	stripe_rust	0.91	0.97	0.94	31	accuracy			0.94	62	macro avg	0.95	0.93	0.94	62	weighted avg	0.94	0.94	0.94	62
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ResNet52V2																																					
DenseNet121	accuracy: 0.9892 - loss: 0.0630	<div>Matrice de confusion : [[18  0  0] [ 0 12  1] [ 0  0 31]] Rapport de classification : <table><thead><tr><th></th><th>precision</th><th>recall</th><th>f1-score</th><th>support</th></tr></thead><tbody><tr><td>Healthy</td><td>1.00</td><td>1.00</td><td>1.00</td><td>18</td></tr><tr><td>septoria</td><td>1.00</td><td>0.92</td><td>0.96</td><td>13</td></tr><tr><td>stripe_rust</td><td>0.97</td><td>1.00</td><td>0.98</td><td>31</td></tr><tr><td>accuracy</td><td></td><td></td><td>0.98</td><td>62</td></tr><tr><td>macro avg</td><td>0.99</td><td>0.97</td><td>0.98</td><td>62</td></tr><tr><td>weighted avg</td><td>0.98</td><td>0.98</td><td>0.98</td><td>62</td></tr></tbody></table></div>		precision	recall	f1-score	support	Healthy	1.00	1.00	1.00	18	septoria	1.00	0.92	0.96	13	stripe_rust	0.97	1.00	0.98	31	accuracy			0.98	62	macro avg	0.99	0.97	0.98	62	weighted avg	0.98	0.98	0.98	62
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Xception	accuracy: 0.9788 loss: 0.1260	<div>Matrice de confusion : [[18  0  0] [ 0 13  0] [ 1  0 30]] Rapport de classification : <table><thead><tr><th></th><th>precision</th><th>recall</th><th>f1-score</th><th>support</th></tr></thead><tbody><tr><td>Healthy</td><td>0.95</td><td>1.00</td><td>0.97</td><td>18</td></tr><tr><td>septoria</td><td>1.00</td><td>1.00</td><td>1.00</td><td>13</td></tr><tr><td>stripe_rust</td><td>1.00</td><td>0.97</td><td>0.98</td><td>31</td></tr><tr><td>accuracy</td><td></td><td></td><td>0.98</td><td>62</td></tr><tr><td>macro avg</td><td>0.98</td><td>0.99</td><td>0.99</td><td>62</td></tr><tr><td>weighted avg</td><td>0.98</td><td>0.98</td><td>0.98</td><td>62</td></tr></tbody></table></div>		precision	recall	f1-score	support	Healthy	0.95	1.00	0.97	18	septoria	1.00	1.00	1.00	13	stripe_rust	1.00	0.97	0.98	31	accuracy			0.98	62	macro avg	0.98	0.99	0.99	62	weighted avg	0.98	0.98	0.98	62
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### CycleGAN:

CNN architecture	Test Accuracy	Confusion Matrix
MobileNetV2		
ResNet50V2		
ResNet52V2		
DenseNet121		
DenseNet169		

Xception		
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