Results

Comparatii date clinice1

Independent Samples T-Test

	t	df	p
Varsta	0.177	71	0.860

Note. Student's t-test.

Comparatii date clinice2

Contingency Tables

	Mutatie_patogena_prezenta		
tiphistologic	0	1	Total
1	23	26	49
2	7	9	16
3	6	1	7
4	1	0	1
Total	37	36	73

Chi-Squared Tests

	Value	df	p
X^2	4.992	3	0.172
N	73		

Contingency Tables

	Mutatie_patogena_prezenta		
Grad	0	1	Total
0	3	0	3
1	0	2	2
2	22	16	38
3	12	18	30
Total	37	36	73

Chi-Squared Tests

	Value	df	p
X^2	7.135	3	0.068
N	73		

Contingency Tables

	Mutatie_patogena_prezenta		
ER	0	1	Total
0	12	14	26
1	25	22	47
Total	37	36	73

Chi-Squared Tests

	Value	df	p
X^2	0.332	1	0.565
N	73		

Contingency Tables

	Mutatie_patogena_prezenta		
PR	0	1	Total
0	21	18	39
1	16	18	34
Total	37	36	73

Chi-Squared Tests

	Value	df	p
X^2	0.335	1	0.563
N	73		

Contingency Tables

	Mutatie_patogena_prezenta		
KI67cutoff	0	1	Total
0	12	3	15
1	25	33	58
Total	37	36	73

Chi-Squared Tests

	Value	df	p
X^2	6.491	1	0.011
N	73		

Contingency Tables

	Mutatie_patogena_prezenta		
HER2	0	1	Total
negativ	31	30	61
pozitiv	6	6	12
Total	37	36	73

Chi-Squared Tests

	Value	df	p
X^2	0.003	1	0.959
N	73		

REZ FINAL Rad Score 2 si VAR Clinice Random Forest Classification

Model Summary: Random Forest Classification

Trees	Features per split	n(Train)	n(Validation)	n(Test)	Validation Accuracy	Test Accuracy	OOB Accuracy
4	1	47	12	14	0.583	0.857	0.591

Note. The model is optimized with respect to the *out-of-bag accuracy*.

Data Split

Confusion Matrix

		Predicted	
		0	1
Observed	0	7	1
	1	1	5

Model Performance Metrics

	0	1	Average / Total
Support	8	6	14
Accuracy	0.857	0.857	0.857
Precision (Positive Predictive Value)	0.875	0.833	0.857
Recall (True Positive Rate)	0.875	0.833	0.857
False Positive Rate	0.167	0.125	0.146
False Discovery Rate	0.125	0.167	0.146
F1 Score	0.875	0.833	0.857
Matthews Correlation Coefficient	0.708	0.708	0.708
Area Under Curve (AUC)	0.667	0.823	0.745
Negative Predictive Value	0.833	0.875	0.854
True Negative Rate	0.833	0.875	0.854
False Negative Rate	0.125	0.167	0.146
False Omission Rate	0.167	0.125	0.146
Threat Score	2.333	1.667	2.000
Statistical Parity	0.571	0.429	1.000

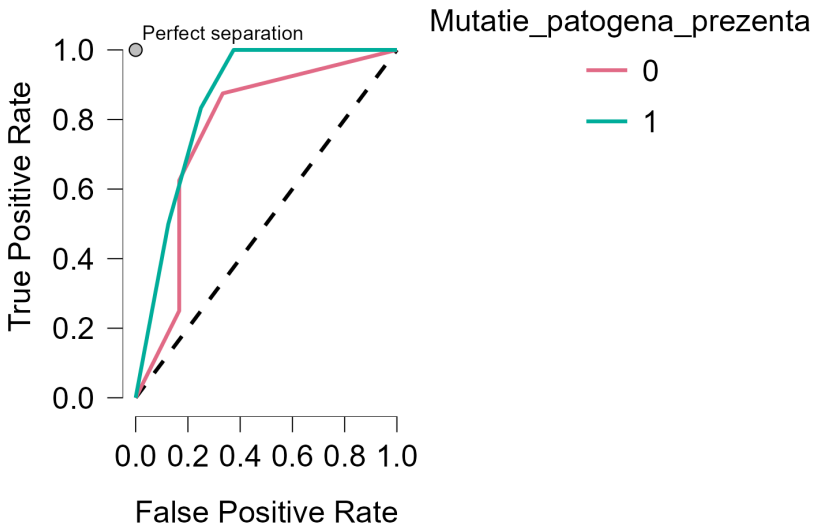
Note. All metrics are calculated for every class against all other classes.

Feature Importance Metrics

	Mean decrease in accuracy	Total increase in node purity	Mean dropout loss
RadScore2	0.166	0.152	0.465
KI67cutoff	0.038	0.038	0.244

Note. Mean dropout loss (defined as 1 - area under curve (AUC)) is based on 50 permutations.

ROC Curves Plot



K-Nearest Neighbors Classification

Model Summary: K-Nearest Neighbors Classification

Nearest neighbors	Weights	Distance	n(Train)	n(Validation)	n(Test)	Validation Accuracy	Test Accuracy
1	rectangular	Euclidean	47	12	14	0.583	0.643

Note. The model is optimized with respect to the *validation set accuracy*.

Data Split

Confusion Matrix

		Predicted	
		0	1
Observed	0	5	3
	1	2	4

Model Performance Metrics

	0	1	Average / Total
Support	8	6	14
Accuracy	0.643	0.643	0.643
Precision (Positive Predictive Value)	0.714	0.571	0.653
Recall (True Positive Rate)	0.625	0.667	0.643
False Positive Rate	0.333	0.375	0.354
False Discovery Rate	0.286	0.429	0.357
F1 Score	0.667	0.615	0.645
Matthews Correlation Coefficient	0.289	0.289	0.289
Area Under Curve (AUC)	0.646	0.646	0.646
Negative Predictive Value	0.571	0.714	0.643
True Negative Rate	0.667	0.625	0.646
False Negative Rate	0.375	0.333	0.354
False Omission Rate	0.429	0.286	0.357
Threat Score	0.714	0.500	0.607
Statistical Parity	0.500	0.500	1.000

Note. All metrics are calculated for every class against all other classes.

Feature Importance Metrics

	Mean dropout loss
RadScore2	0.487
KI67cutoff	0.102

Note. Mean dropout loss (defined as 1 - area under curve (AUC)) is based on 50 permutations.

Support Vector Machine Classification

Model Summary: Support Vector Machine Classification

Violation cost	Support Vectors	n(Train)	n(Validation)	n(Test)	Validation Accuracy	Test Accuracy
0.160	26	47	12	14	0.667	0.643

Data Split

Confusion Matrix

		Predicted	
		0	1
Observed	0	6	2
	1	3	3

Model Performance Metrics

	0	1	Average / Total
Support	8	6	14
Accuracy	0.643	0.643	0.643
Precision (Positive Predictive Value)	0.667	0.600	0.638
Recall (True Positive Rate)	0.750	0.500	0.643
False Positive Rate	0.500	0.250	0.375
False Discovery Rate	0.333	0.400	0.367
F1 Score	0.706	0.545	0.637
Matthews Correlation Coefficient	0.258	0.258	0.258
Area Under Curve (AUC)	0.625	0.625	0.625
Negative Predictive Value	0.600	0.667	0.633
True Negative Rate	0.500	0.750	0.625
False Negative Rate	0.250	0.500	0.375
False Omission Rate	0.400	0.333	0.367
Threat Score	0.750	0.429	0.589
Statistical Parity	0.643	0.357	1.000

Note. All metrics are calculated for every class against all other classes.

Feature Importance Metrics

	Mean dropout loss
RadScore2	0.451
KI67cutoff	0.166

Note. Mean dropout loss (defined as 1 - area under curve (AUC)) is based on 50 permutations.

Boosting Classification

Model Summary: Boosting Classification

Trees	Shrinkage	n(Train)	n(Validation)	n(Test)	Validation Accuracy	Test Accuracy
11	0.100	47	12	14	0.750	0.714

Note. The model is optimized with respect to the *out-of-bag accuracy*.

Data Split

Confusion Matrix

		Predicted	
		0	1
Observed	0	6	2
	1	2	4

Model Performance Metrics

	0	1	Average / Total
Support	8	6	14
Accuracy	0.714	0.714	0.714
Precision (Positive Predictive Value)	0.750	0.667	0.714
Recall (True Positive Rate)	0.750	0.667	0.714
False Positive Rate	0.333	0.250	0.292
False Discovery Rate	0.250	0.333	0.292
F1 Score	0.750	0.667	0.714
Matthews Correlation Coefficient	0.417	0.417	0.417
Area Under Curve (AUC)	0.688	0.688	0.688
Negative Predictive Value	0.667	0.750	0.708
True Negative Rate	0.667	0.750	0.708
False Negative Rate	0.250	0.333	0.292
False Omission Rate	0.333	0.250	0.292
Threat Score	1.000	0.667	0.833
Statistical Parity	0.571	0.429	1.000

Note. All metrics are calculated for every class against all other classes.

Feature Importance Metrics

	Relative Influence	Mean dropout loss
RadScore2	100.000	0.485
KI67cutoff	0.000	0.085

Note. Mean dropout loss (defined as 1 - area under curve (AUC)) is based on 50 permutations.