SUPPLEMENTARY MATERIAL

Table S1. Sample of results from the analysis of statistical significance.

	Holdout - Manual Augmentation	**Holdout - Augmentation with SMOTE**	**Holdout - Augmentation with Borderline-SMOTE**	**Holdout - Augmentation with Borderline-SMOTE SVM**	**CV-SMOTE**
Value-P - AH	0.904	0.027	0.001	0.005	0.007
Value-P - DM	0.000	0.000	0.000	0.000	0.000
Value-P - CREA	0.768	0.000	0.001	0.002	0.000
Value-P - UREA	0.354	0.896	0.774	0.959	0.186
Value-P - ALBU	0.000	0.000	0.000	0.000	0.000
Value-P - AGE	0.007	0.000	0.000	0.000	0.000
Value-P - GENDER	0.356	0.120	0.996	0.559	0.569
Value-P - GFR	0.774	0.887	0.198	0.267	0.159
F-statistic	29.50	147.300	134.500	97.800	126.900
R-squared	0.692	0.858	0.847	0.8200	0.828

Table S2. Results for the hold-out method without using the framework proposed by Pineda-Bautista et al.

	ACC	PR	Recall	Weighted F1	Macro F1	MCC	FMI
Manual Augmentation							
Decision Tree	83.33	0.77	0.83	0.79	0.61	0.74	0.77
Random Forest	88.88	0.80	0.88	0.84	0.71	0.83	0.88
Adaboost DT	83.33	0.83	0.83	0.83	0.80	0.73	0.72

OLA	72.22	0.76	0.72	0.70	0.51	0.62	0.64
LCA	83.33	0.84	0.83	0.82	0.58	0.77	0.87
KNORA-U	83.33	0.84	0.83	0.82	0.58	0.77	0.87
KNORA-E	83.33	0.91	0.83	0.84	0.73	0.76	0.75
META-DES	88.88	0.88	0.88	0.88	0.62	0.82	0.98
Manual Augmentation + Augmentation with SMOTE							
Decision Tree	83.33	0.86	0.83	0.84	0.80	0.74	0.78
Random Forest	77.77	0.81	0.77	0.78	0.70	0.66	0.65
Adaboost DT	83.33	0.86	0.83	0.84	0.80	0.74	0.78
OLA	88.88	0.94	0.88	0.89	0.88	0.85	0.82
LCA	83.33	0.86	0.83	0.84	0.80	0.74	0.78
KNORA-U	88.88	0.94	0.88	0.89	0.88	0.85	0.82
KNORA-E	83.33	0.90	0.83	0.85	0.71	0.76	0.80
META-DES	83.33	0.78	0.83	0.80	0.70	0.73	0.79
Manual Augmentation + Augmentation with Borderline-SMOTE							
Decision Tree	88.88	0.88	0.88	0.88	0.84	0.82	0.84
Random Forest	77.77	0.84	0.77	0.79	0.67	0.68	0.71
Adaboost DT	61.11	0.75	0.61	0.64	0.58	0.46	0.44
OLA	94.44	0.96	0.94	0.94	0.93	0.91	0.90
LCA	88.88	0.88	0.88	0.88	0.84	0.82	0.84
KNORA-U	88.88	0.93	0.88	0.89	0.83	0.84	0.82

KNORA-E	83.33	0.85	0.83	0.83	0.74	0.75	0.76
META-DES	88.88	0.88	0.88	0.88	0.84	0.82	0.84
Manual Augmentation + Augmentation with Borderline-SMOTE SVM							
Decision Tree	94.44	0.95	0.94	0.93	0.90	0.91	0.91
Random Forest	77.77	0.79	0.77	0.78	0.70	0.66	0.65
Adaboost DT	61.11	0.75	0.61	0.64	0.58	0.46	0.44
OLA	88.88	0.91	0.88	0.89	0.77	0.83	0.89
LCA	94.44	0.97	0.94	0.95	0.90	0.92	0.91
KNORA-U	83.33	0.80	0.83	0.81	0.63	0.74	0.84
KNORA-E	94.44	0.96	0.94	0.94	0.93	0.91	0.90
META-DES	94.44	0.96	0.94	0.94	0.93	0.91	0.90

Table S3. Results for the multiple stratified CV method without using the framework proposed by Pineda-Bautista et al.

	ACC	PR	Recall	Weighted F1	Macro F1	MCC	FMI
Manual Augmentation							
Decision Tree	92.33	0.92	0.92	0.91	0.88	0.90	0.86
Random Forest	96.66	0.94	0.96	0.95	0.92	0.95	0.96
Adaboost DT	97.33	0.96	0.97	0.96	0.94	0.96	0.96
OLA	90.66	0.88	0.90	0.88	0.82	0.87	0.88
LCA	87.33	0.83	0.87	0.84	0.78	0.81	0.82
KNORA-U	91.00	0.88	0.91	0.88	0.82	0.87	0.89

KNORA-E	91.33	0.88	0.91	0.89	0.82	0.87	0.90
META-DES	91.66	0.89	0.91	0.89	0.84	0.88	0.88
Manual Augmentation + Augmentation with SMOTE							
Decision Tree	**98.99**	**0.99**	**0.99**	**0.98**	**0.98**	**0.98**	**0.98**
Random Forest	95.00	0.92	0.95	0.93	0.89	0.92	0.91
Adaboost DT	**97.99**	**0.96**	**0.98**	**0.97**	**0.95**	**0.97**	**0.97**
OLA	93.00	0.94	0.93	0.92	0.84	0.90	0.88
LCA	89.66	0.92	0.89	0.89	0.87	0.86	0.81
KNORA-U	92.00	0.94	0.92	0.91	0.89	0.89	0.87
KNORA-E	93.99	0.95	0.94	0.93	0.86	0.91	0.90
META-DES	93.33	0.93	0.93	0.92	0.87	0.90	0.89
Manual Augmentation + Augmentation with Borderline-SMOTE							
Decision Tree	98.00	0.98	0.98	0.97	0.96	0.97	0.98
Random Forest	94.00	0.91	0.94	0.92	0.87	0.91	0.92
Adaboost DT	98.33	0.97	0.98	0.97	0.96	0.97	0.98
OLA	92.00	0.92	0.92	0.91	0.87	0.89	0.85
LCA	91.00	0.92	0.91	0.90	0.85	0.87	0.84
KNORA-U	92.00	0.93	0.92	0.91	0.86	0.90	0.87
KNORA-E	93.00	0.92	0.93	0.91	0.85	0.90	0.90
META-DES	93.66	0.93	0.93	0.92	0.88	0.91	0.91
Manual Augmentation + Augmentation with Borderline-SMOTE SVM							

Decision Tree	95.00	0.93	0.95	0.93	0.91	0.93	0.91
Random Forest	95.00	0.93	0.95	0.93	0.89	0.92	0.93
Adaboost DT	95.33	0.93	0.95	0.94	0.92	0.93	0.91
OLA	92.33	0.91	0.92	0.90	0.85	0.89	0.89
LCA	92.00	0.91	0.92	0.90	0.85	0.88	0.87
KNORA-U	92.00	0.92	0.92	0.91	0.86	0.89	0.89
KNORA-E	92.66	0.90	0.92	0.91	0.86	0.89	0.89
META-DES	95.00	0.95	0.95	0.94	0.90	0.93	0.94

Table S4. Results for the nested CV method without using the framework proposed by Pineda-Bautista et al.

	ACC	PR	Recall	Weighted F1	Macro F1	MCC	FMI
Manual Augmentation							
Decision Tree	92.33	0.92	0.92	0.91	0.90	0.90	0.82
Random Forest	94.33	0.90	0.94	0.92	0.87	0.91	0.92
Adaboost DT	93.66	0.92	0.93	0.92	0.90	0.91	0.86
OLA	90.33	0.91	0.90	0.89	0.82	0.86	0.86
LCA	86.33	0.84	0.86	0.83	0.77	0.81	0.79
KNORA-U	90.33	0.87	0.90	0.88	0.82	0.86	0.86
KNORA-E	91.00	0.89	0.91	0.89	0.83	0.87	0.89
META-DES	91.00	0.87	0.91	0.88	0.81	0.87	0.89
Manual Augmentation + Augmentation with SMOTE							
Decision Tree	**98.99**	**1.00**	**0.99**	**0.99**	**0.98**	**0.98**	**0.99**

Random Forest	92.33	0.95	0.92	0.92	0.87	0.89	0.87
Adaboost DT	**98.00**	**0.97**	**0.98**	**0.97**	**0.97**	**0.97**	**0.95**
OLA	93.33	0.92	0.93	0.92	0.88	0.91	0.89
LCA	89.33	0.91	0.89	0.89	0.84	0.85	0.81
KNORA-U	92.33	0.95	0.92	0.92	0.87	0.89	0.87
KNORA-E	93.99	0.94	0.94	0.93	0.89	0.91	0.89
META-DES	92.00	0.94	0.92	0.91	0.86	0.89	0.87
Manual Augmentation + Augmentation with Borderline-SMOTE							
Decision Tree	95.00	0.95	0.95	0.95	0.94	0.93	0.88
Random Forest	93.33	0.90	0.93	0.91	0.87	0.90	0.88
Adaboost DT	95.33	0.95	0.95	0.94	0.93	0.93	0.89
OLA	91.66	0.93	0.91	0.91	0.86	0.88	0.87
LCA	90.00	0.92	0.90	0.89	0.85	0.86	0.83
KNORA-U	90.66	0.91	0.90	0.89	0.84	0.87	0.85
KNORA-E	91.33	0.89	0.91	0.89	0.83	0.87	0.88
META-DES	94.33	0.95	0.94	0.93	0.89	0.92	0.92
Manual Augmentation + Augmentation with Borderline-SMOTE SVM							
Decision Tree	96.00	0.94	0.96	0.95	0.91	0.94	0.95
Random Forest	93.66	0.91	0.93	0.91	0.88	0.90	0.89
Adaboost DT	93.99	0.93	0.94	0.93	0.89	0.91	0.90
OLA	90.33	0.89	0.90	0.88	0.82	0.86	0.87

LCA	92.66	0.93	0.92	0.92	0.88	0.90	0.87
KNORA-U	92.00	0.92	0.92	0.91	0.85	0.89	0.88
KNORA-E	92.33	0.91	0.92	0.90	0.84	0.89	0.91
META-DES	93.00	0.92	0.93	0.91	0.86	0.90	0.91

Figure S1. PRC curves for the DT model using SMOTE and the nested CV method for the four first folds.

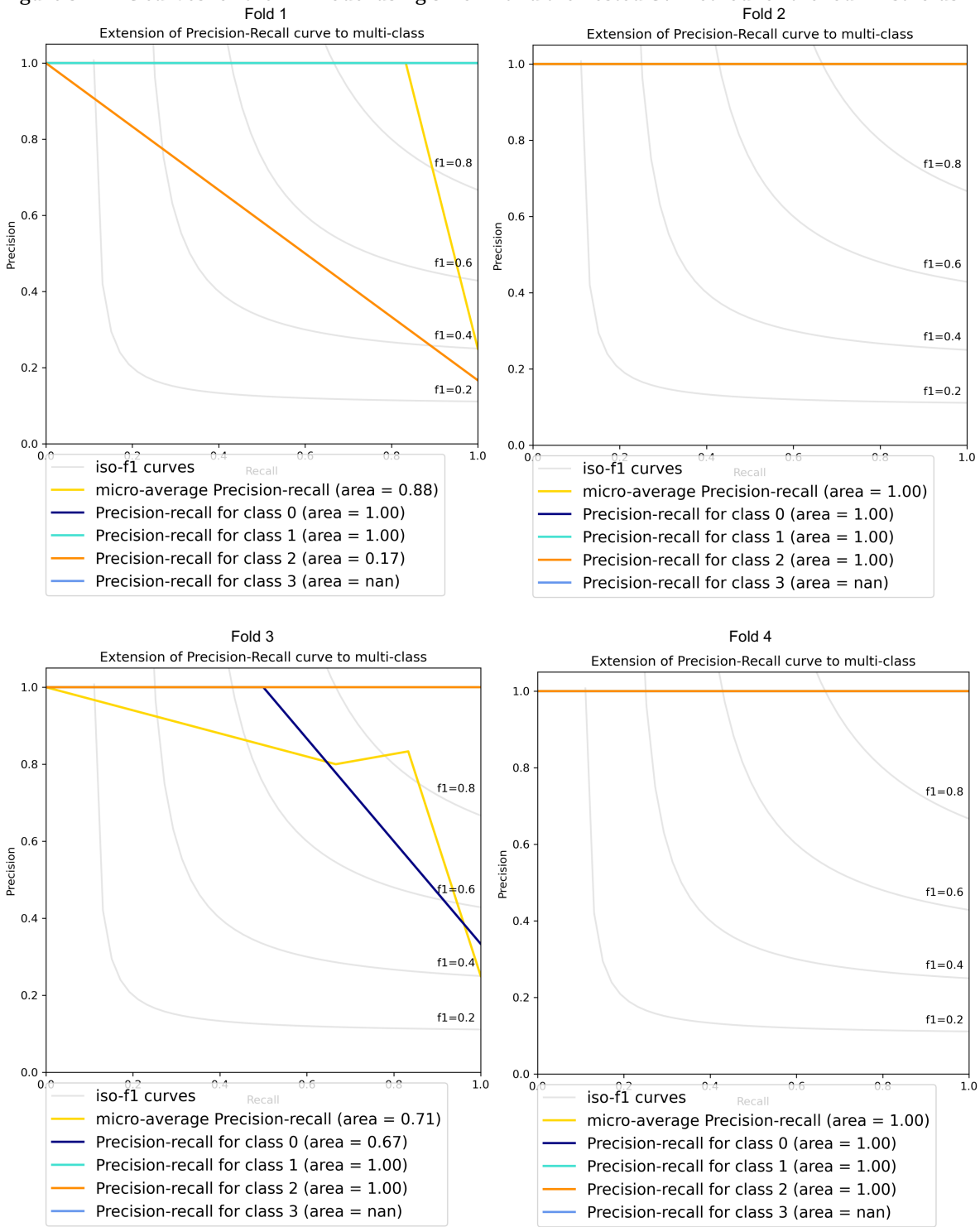

Figure S2. PRC curves for the DT model using SMOTE and the nested CV method for the fifth, sixth, seventh, and eighth folds.

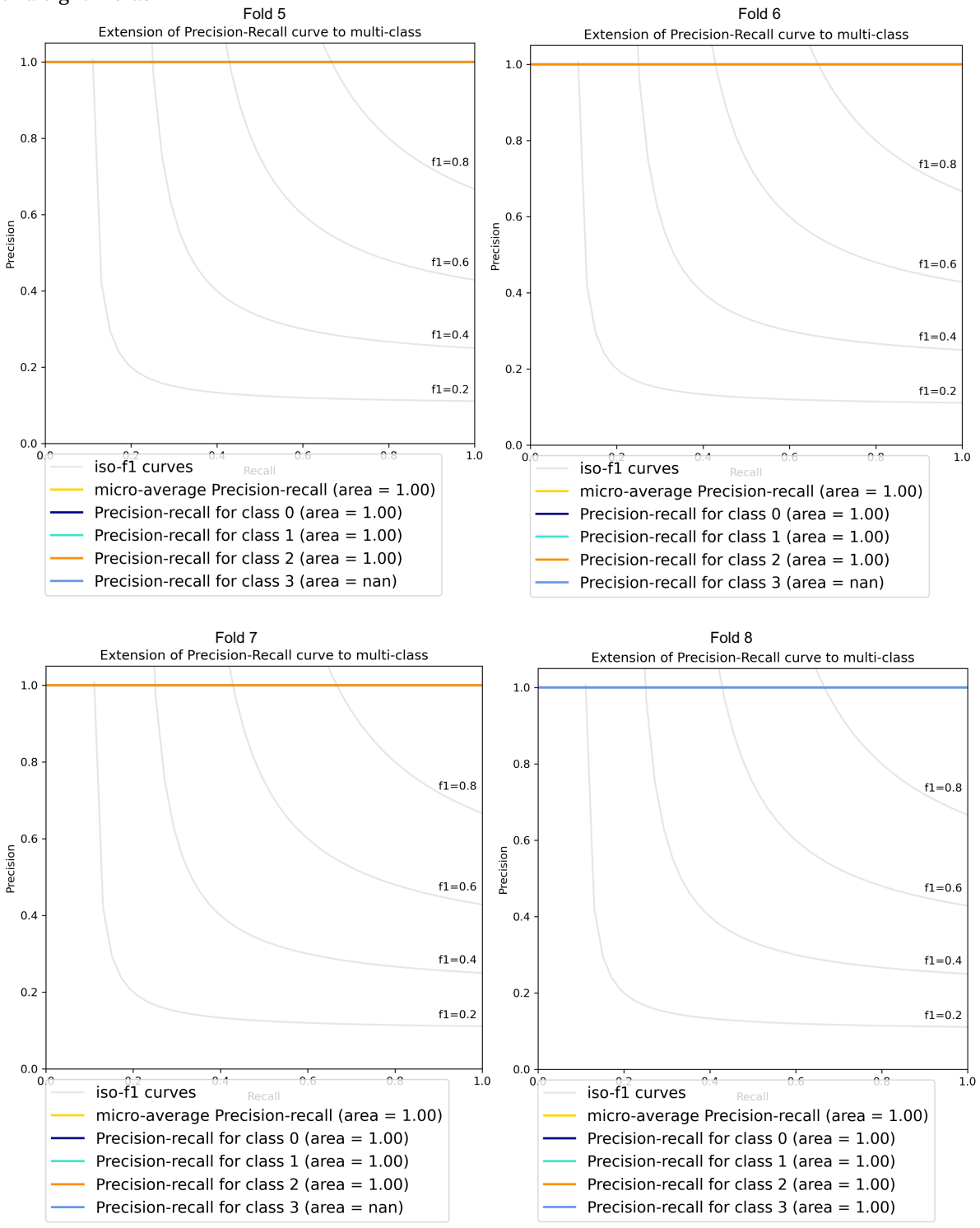

Figure S3. PRC curves for the DT model using SMOTE and the nested CV method for the ninth and tenth folds.