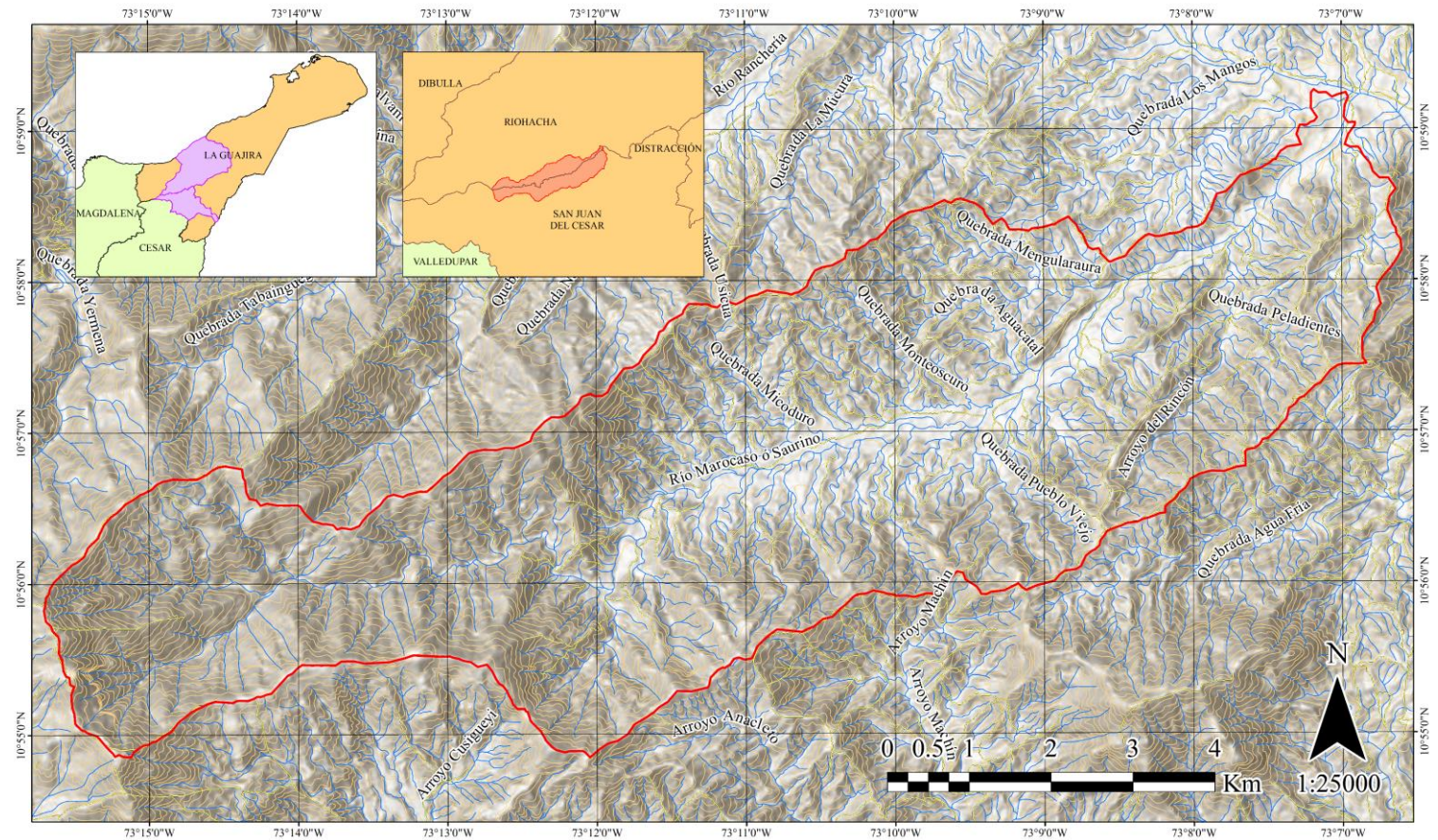# RIO MAROCASO
Taller 9 – Evaluación de modelos

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Generalidades

La cuenca del río Marocaso se encuentra en el Departamento de la Guajira a una altitud de aproximadamente 658 m.s.n.m., entre los municipios de Rihoacha y San Juan del Cesar.

Nace directamente desde las montañas de la Sierra Nevada de Santa Marta y es un afluente directo del Rio Ranchería.

Modelo Heurístico

Modelo Heurístico

Modelo Heurístico

ROC Curve - Heuristico

AUC=0.6227%
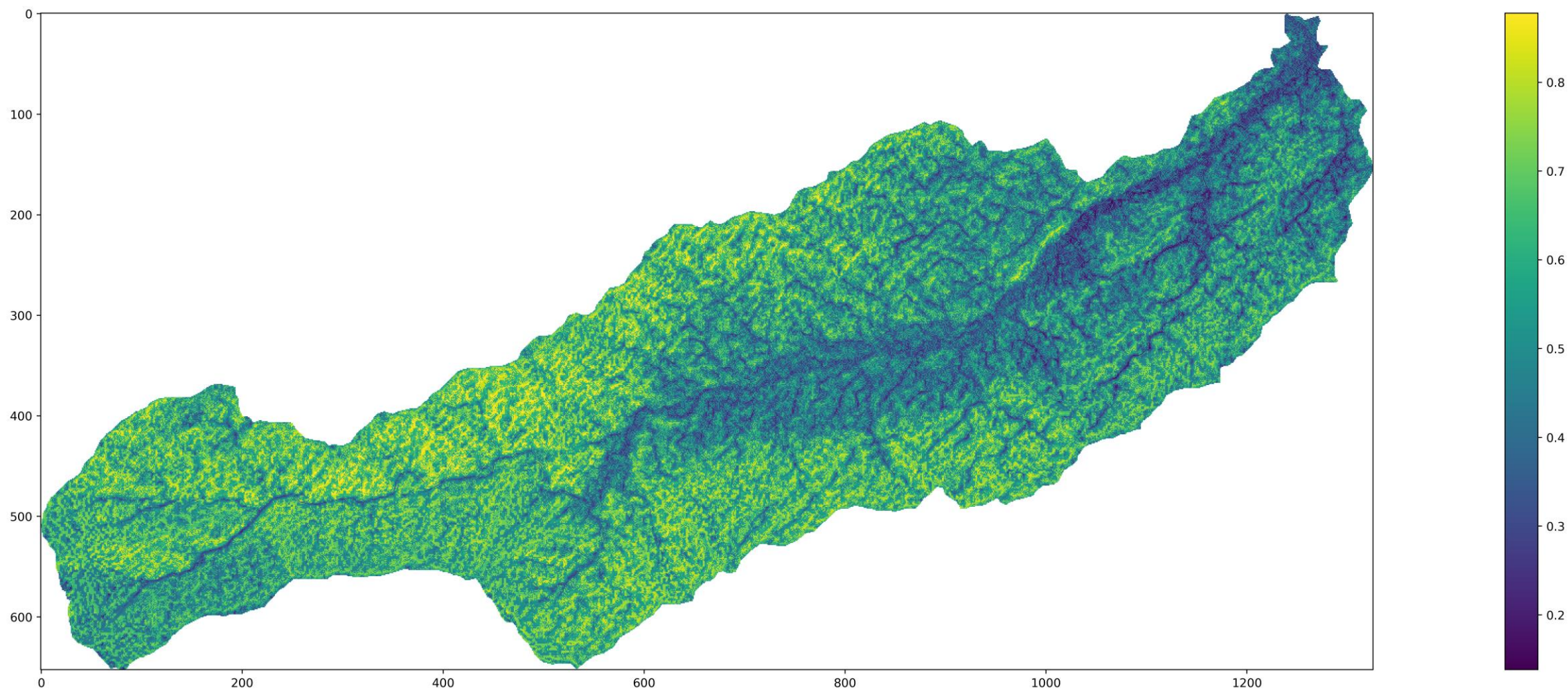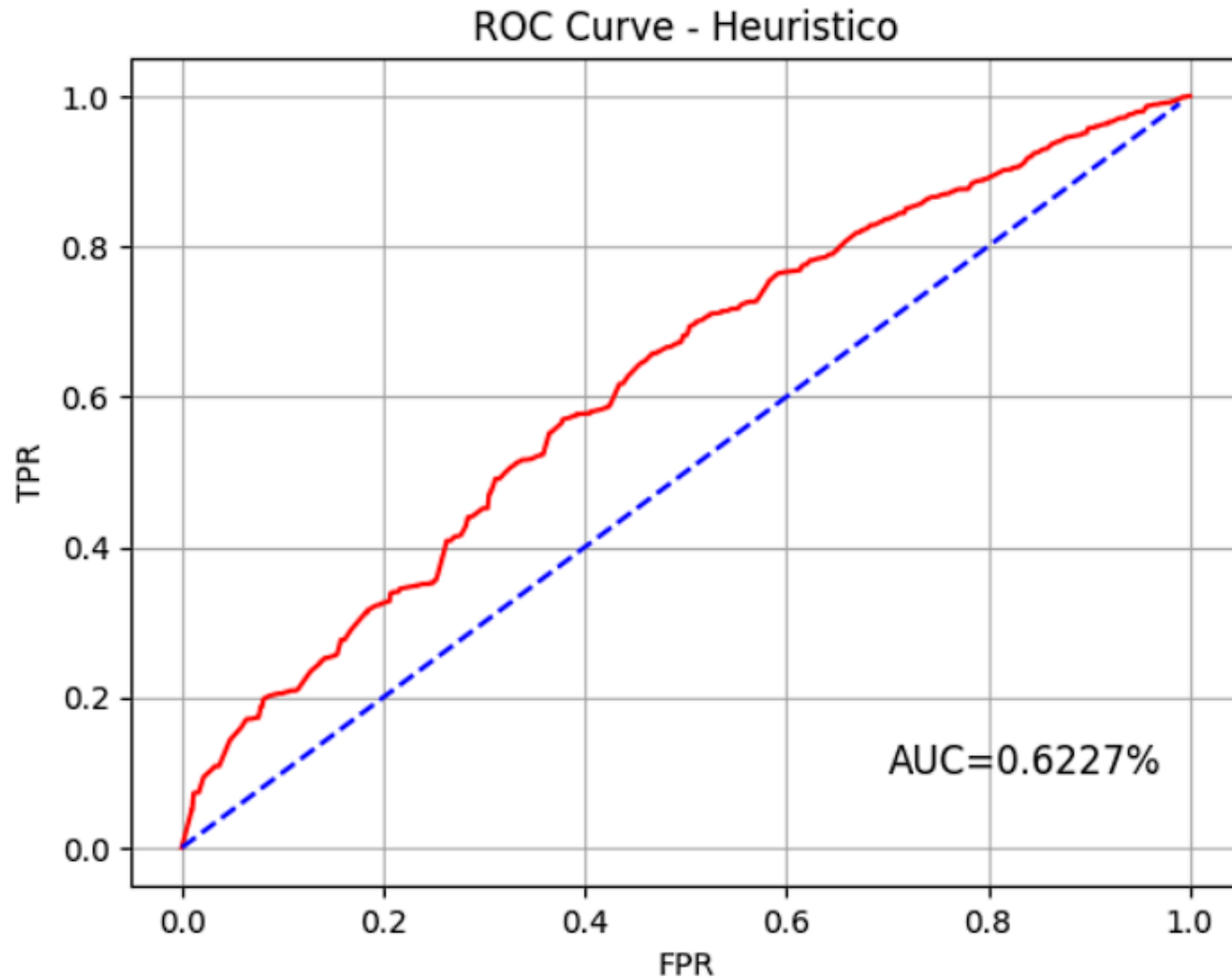
	precision	recall	f1-score	support
0.0	0.99	0.38	0.55	347699
1.0	0.02	0.78	0.05	6920
accuracy			0.39	354619
macro avg	0.51	0.58	0.30	354619
weighted avg	0.97	0.39	0.54	354619

Modelos Bivariados

Frequency Ratio Model (Likelihood)

Frequency Ratio Model (Likelihood)

ROC Curve - FR

AUC=0.6919%
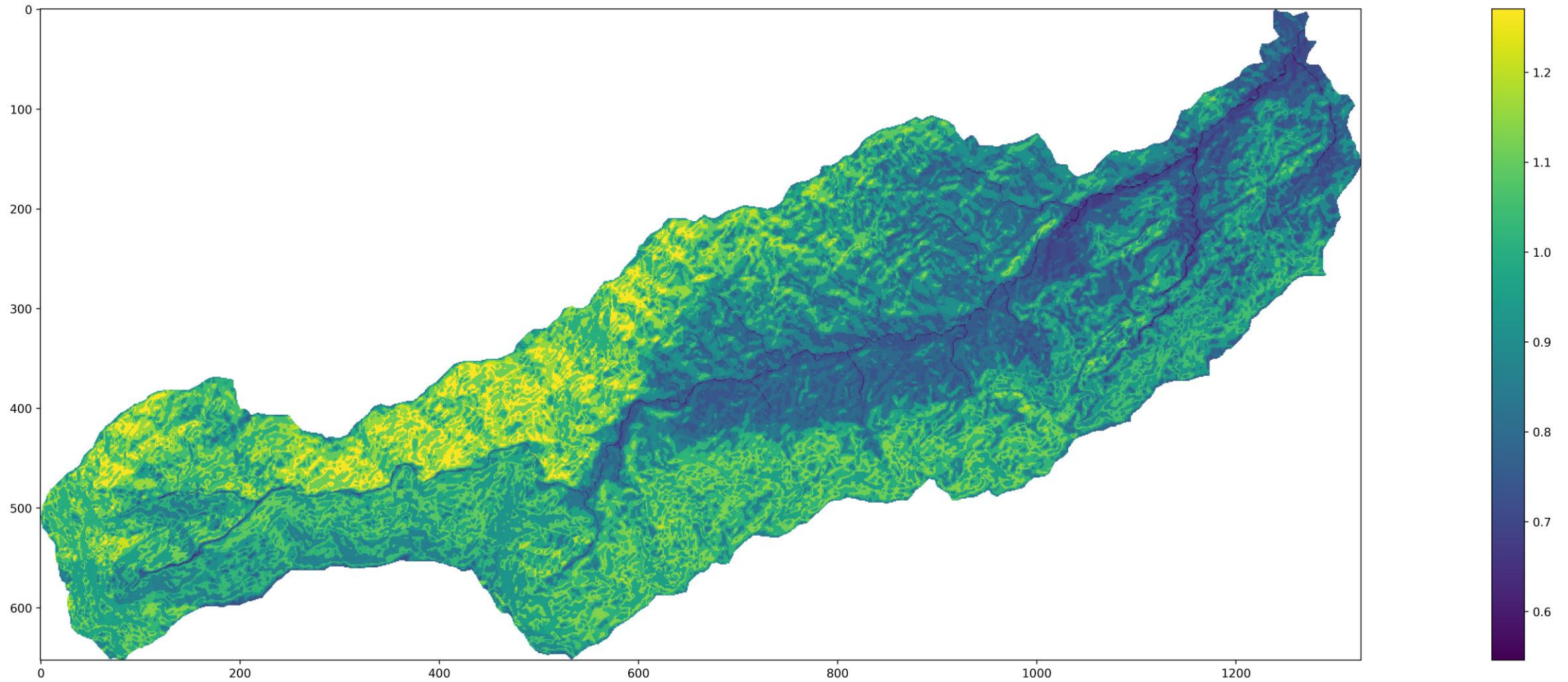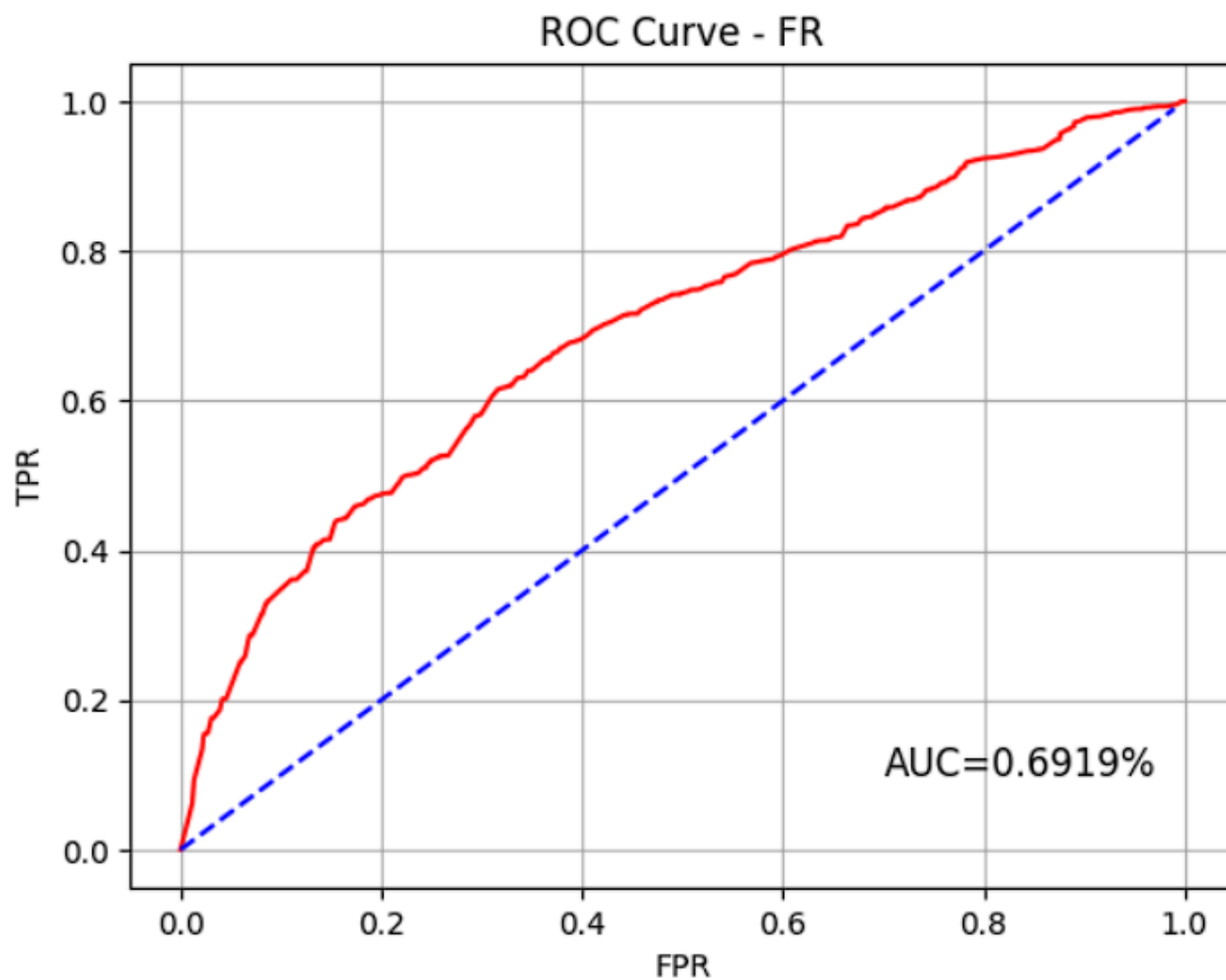
	precision	recall	f1-score	support
0.0	0.99	0.40	0.57	347699
1.0	0.03	0.79	0.05	6920
accuracy			0.41	354619
macro avg	0.51	0.60	0.31	354619
weighted avg	0.97	0.41	0.56	354619

Statistical Model Index

Statistical Model Index

ROC Curve - SMI

AUC=0.693%
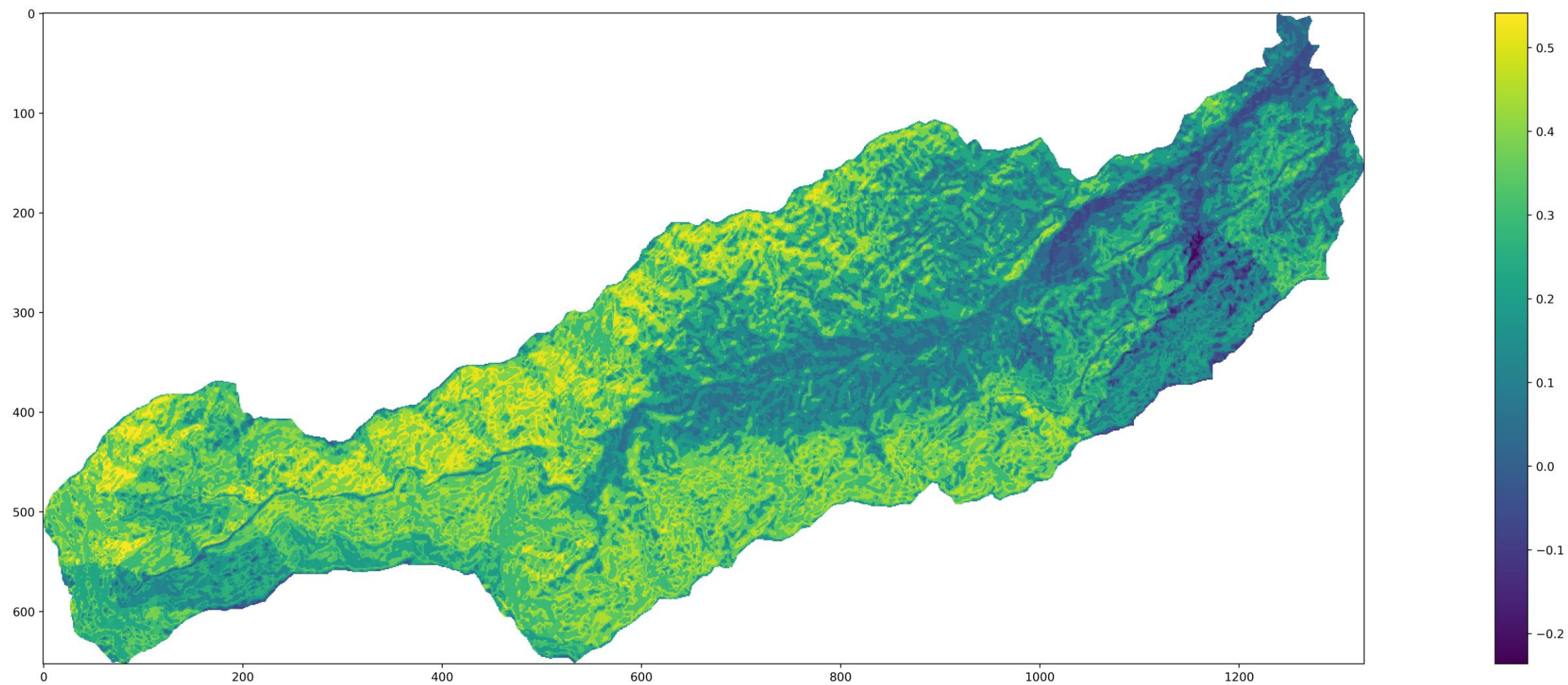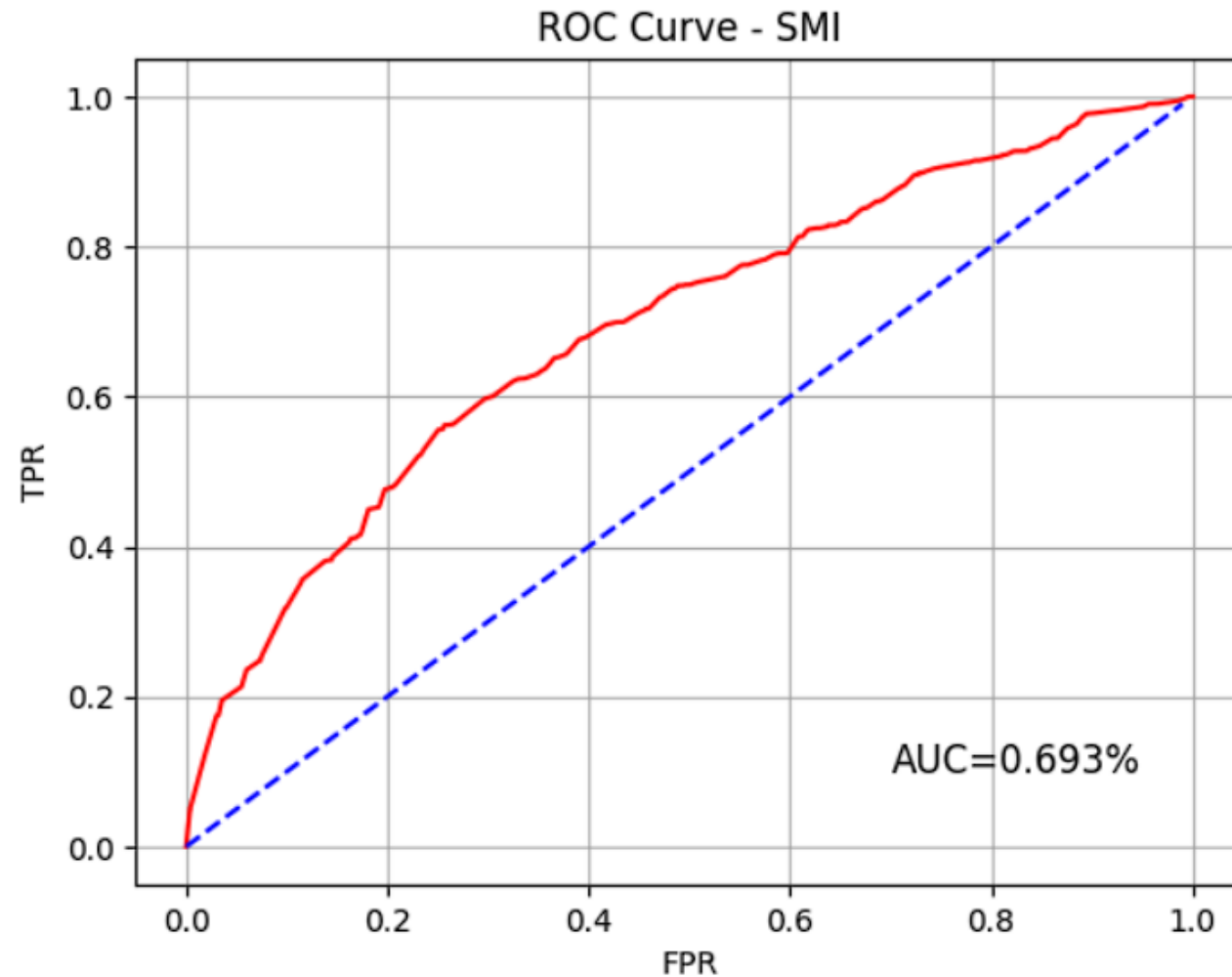
	precision	recall	f1-score	support
0.0	0.99	0.27	0.42	347699
1.0	0.02	0.90	0.05	6920
accuracy			0.28	354619
macro avg	0.51	0.58	0.24	354619
weighted avg	0.97	0.28	0.42	354619

Weight of evidence (WOE)
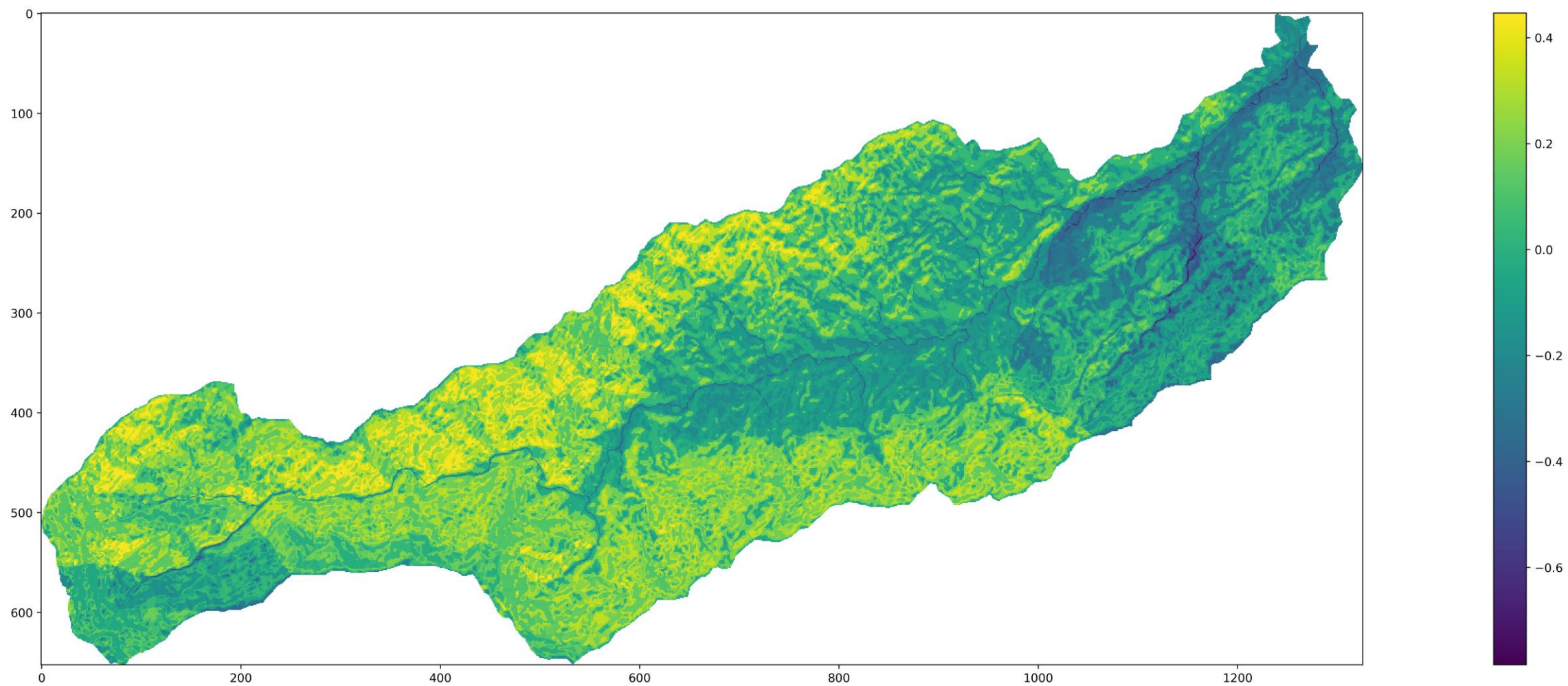
Weight of evidence (WOE)

ROC Curve - WOE
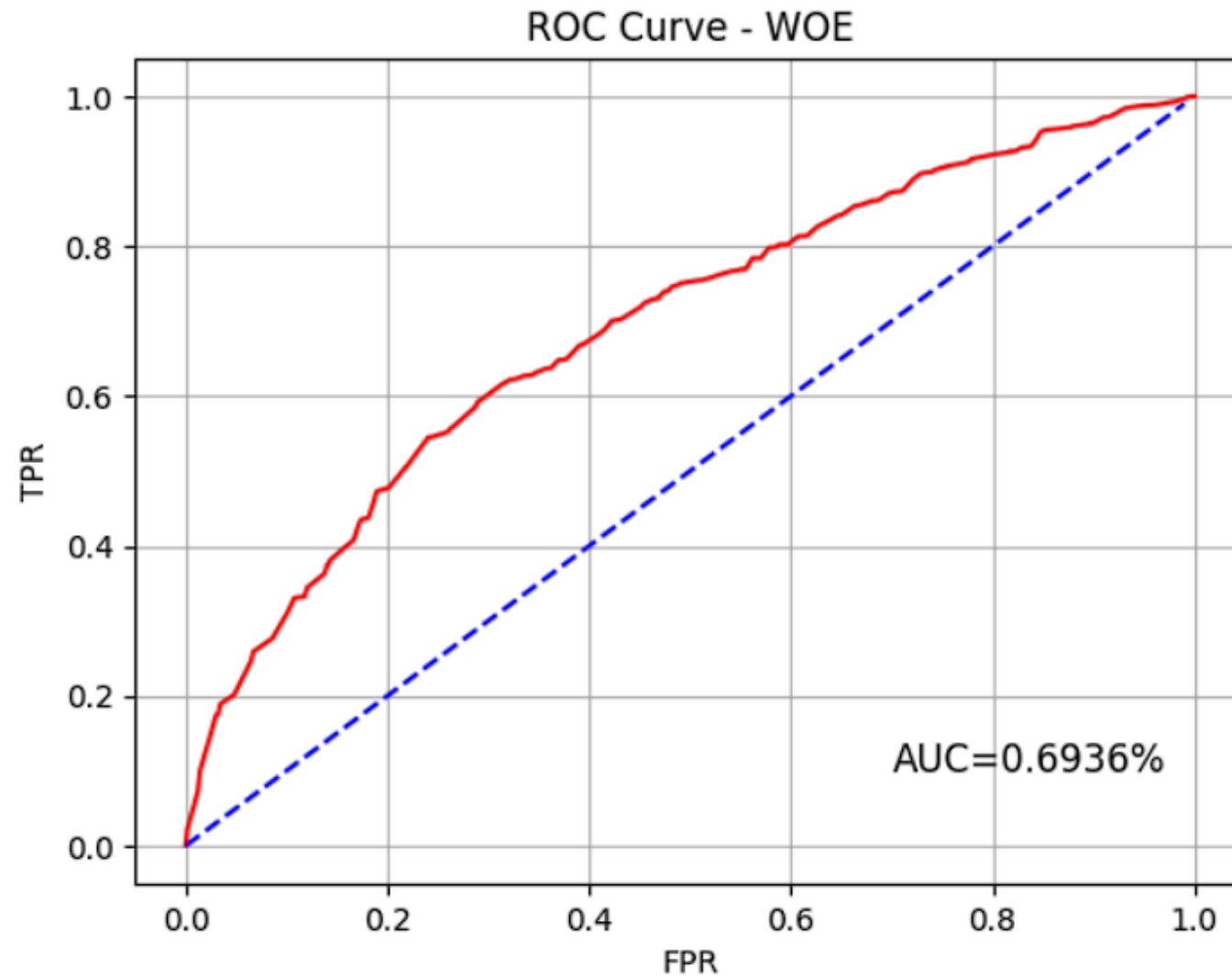
	precision	recall	f1-score	support
0.0	0.99	0.14	0.24	347699
1.0	0.02	0.96	0.04	6920
accuracy			0.15	354619
macro avg	0.51	0.55	0.14	354619
weighted avg	0.97	0.15	0.24	354619

Modelos Multivariados

Regresión logística
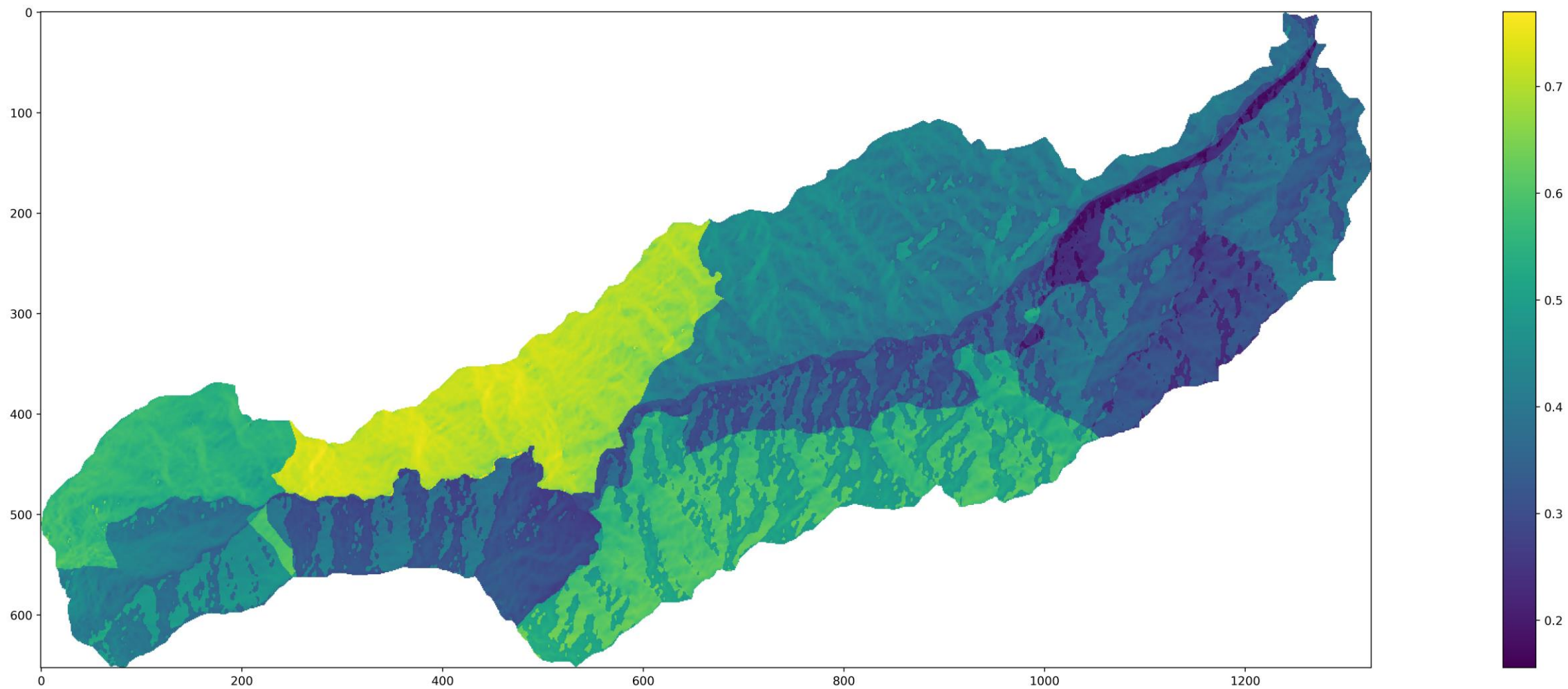
Regresión logística
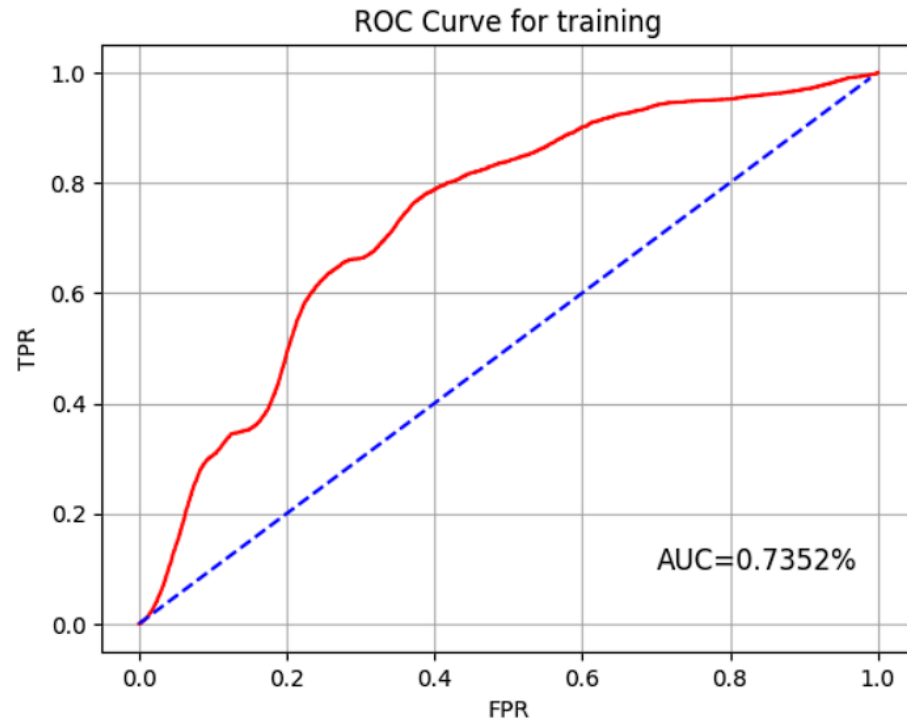
	precision	recall	f1-score	support
0.0	0.99	0.69	0.81	312938
1.0	0.04	0.67	0.08	6219
accuracy			0.69	319157
macro avg	0.52	0.68	0.44	319157
weighted avg	0.97	0.69	0.80	319157
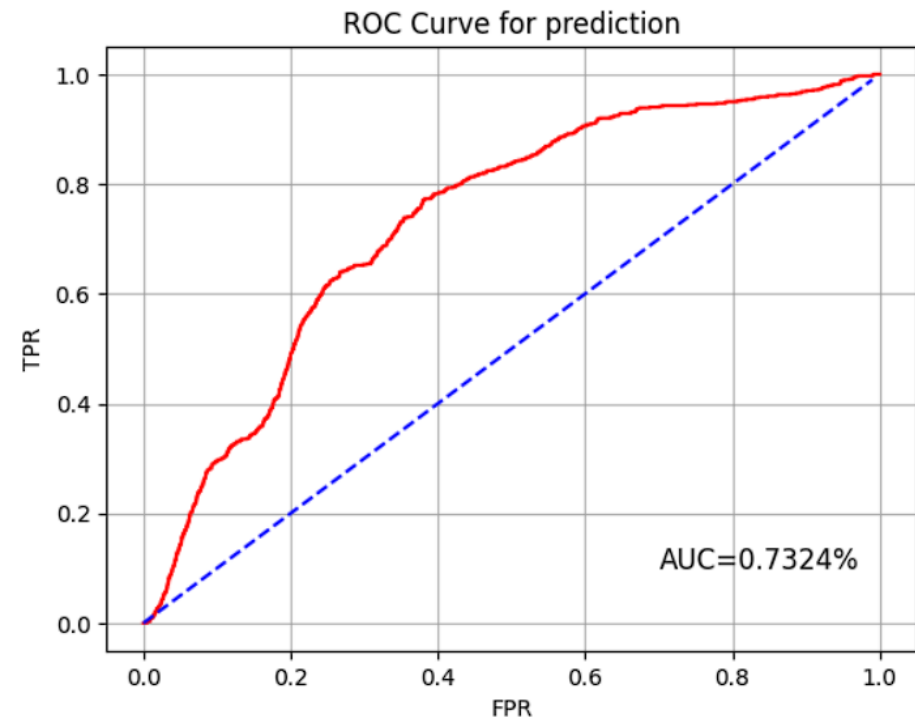
	precision	recall	f1-score	support
0.0	0.99	0.69	0.81	34761
1.0	0.04	0.67	0.08	701
accuracy			0.69	35462
macro avg	0.52	0.68	0.44	35462
weighted avg	0.97	0.69	0.80	35462

Análisis discriminante lineal

Análisis discriminante lineal

ROC Curve for training

	precision	recall	f1-score	support
0.0	0.98	1.00	0.99	278128
1.0	0.00	0.00	0.00	5567
accuracy			0.98	283695
macro avg	0.49	0.50	0.50	283695
weighted avg	0.96	0.98	0.97	283695

ROC Curve for prediction

	precision	recall	f1-score	support
0.0	0.98	1.00	0.99	69571
1.0	0.00	0.00	0.00	1353
accuracy			0.98	70924
macro avg	0.49	0.50	0.50	70924
weighted avg	0.96	0.98	0.97	70924
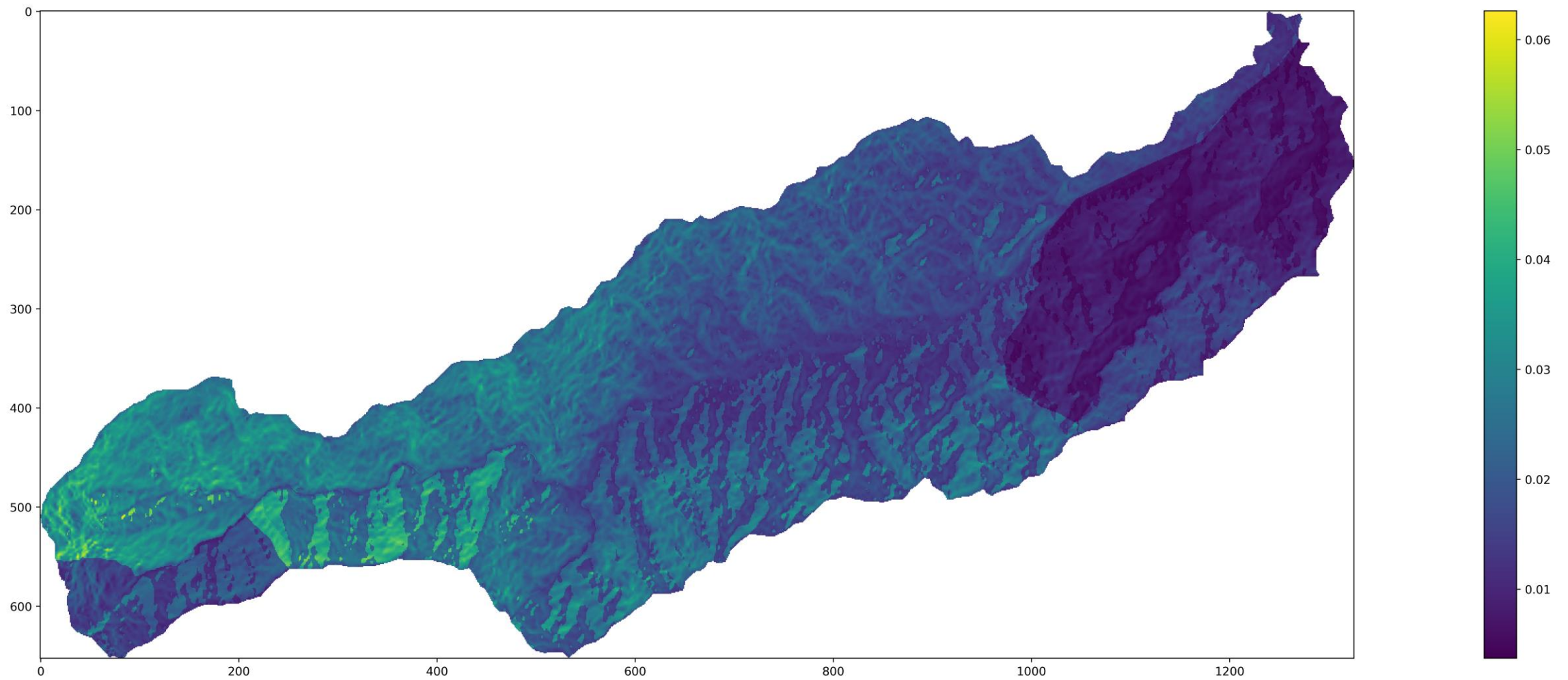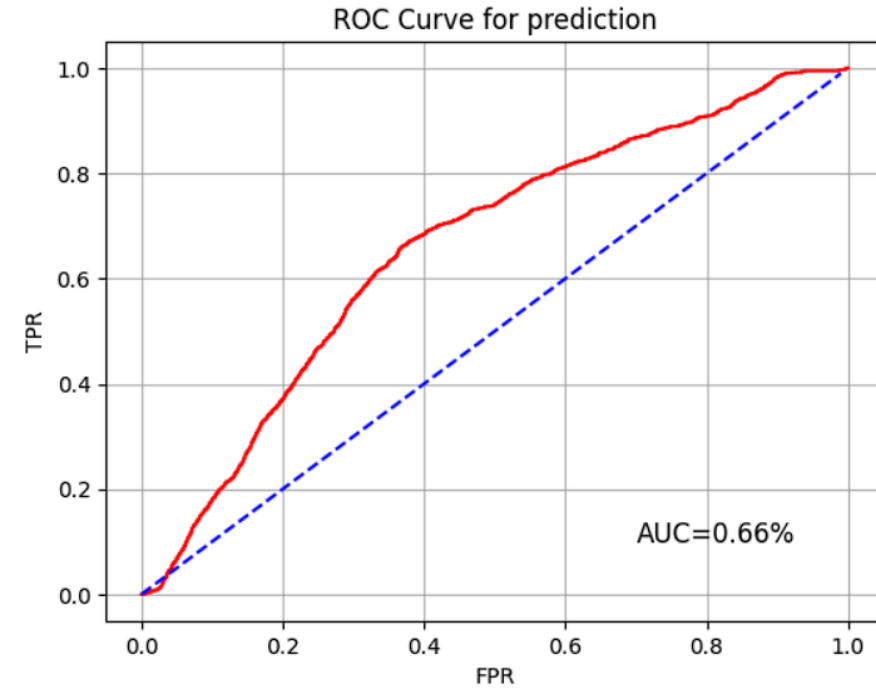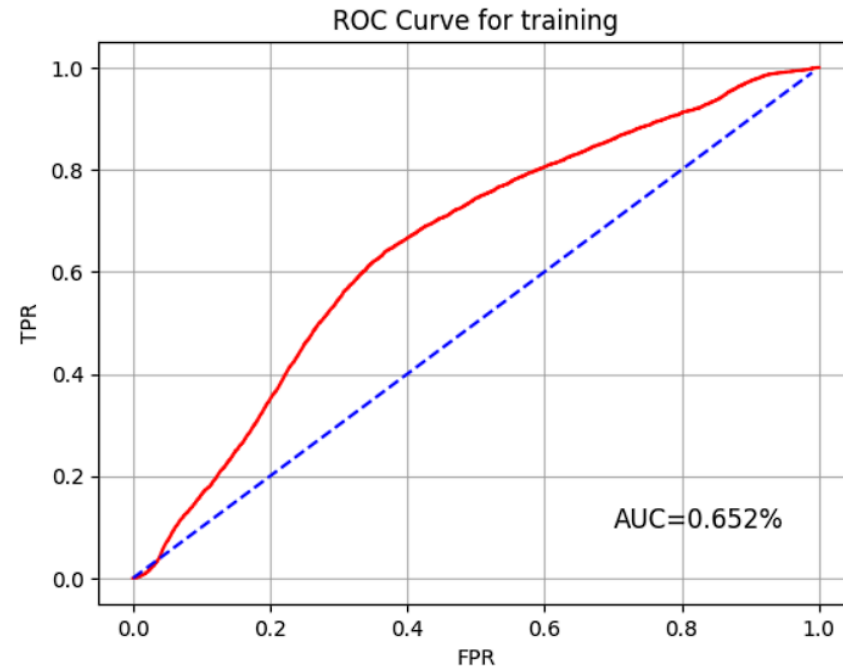
Random Forest

Random Forest

ROC Curve for training

ROC Curve for prediction

AUC=1.0%

AUC=0.6838%
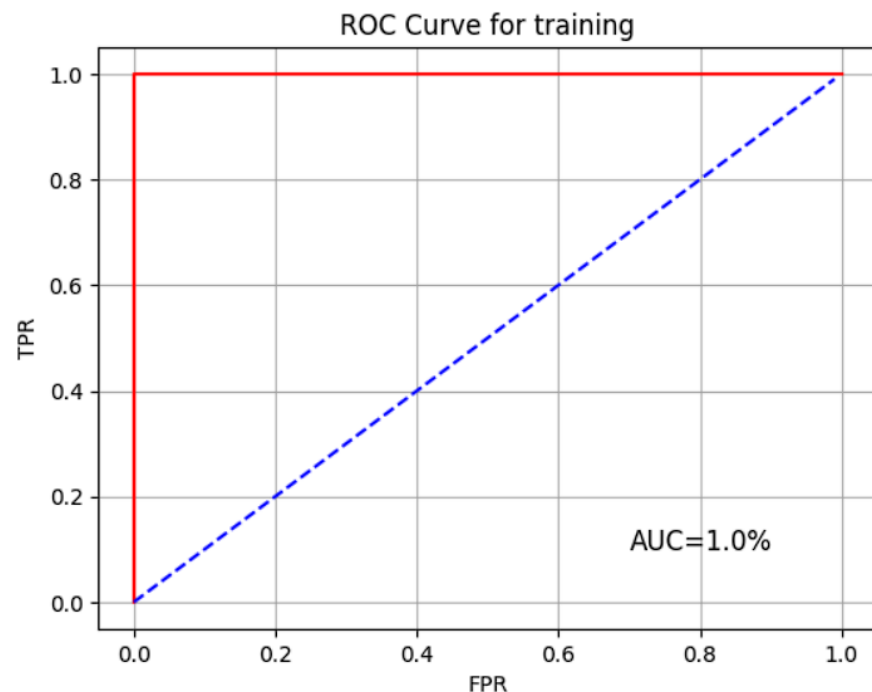
	precision	recall	f1-score	support
0.0	1.00	1.00	1.00	27
1.0	1.00	1.00	1.00	5536
accuracy			1.00	5563
macro avg	1.00	1.00	1.00	5563
weighted avg	1.00	1.00	1.00	5563
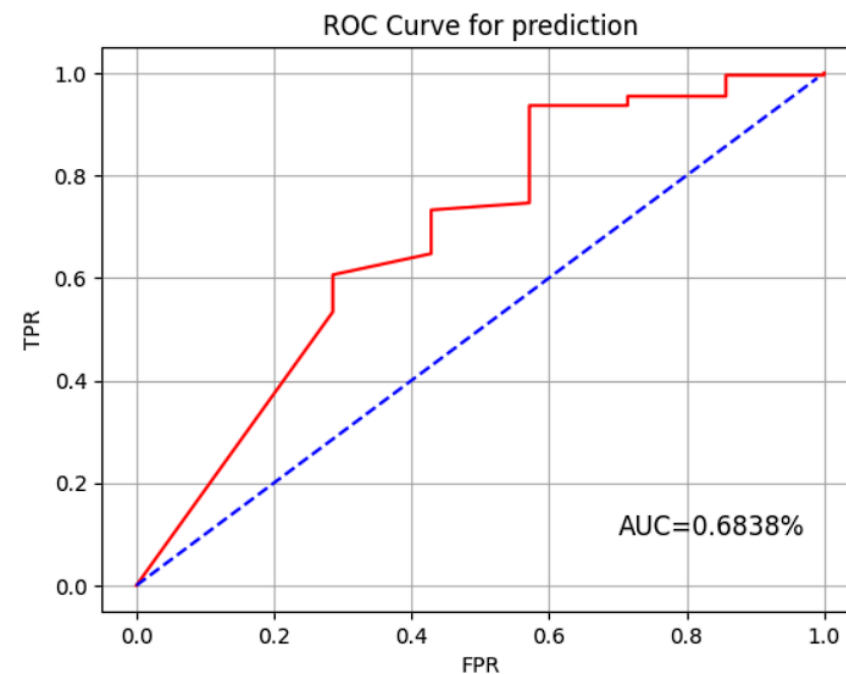
	precision	recall	f1-score	support
0.0	0.00	0.00	0.00	7
1.0	0.99	1.00	1.00	1384
accuracy			0.99	1391
macro avg	0.50	0.50	0.50	1391
weighted avg	0.99	0.99	0.99	1391