

# Reporte de Evaluación del Modelo con Optimización de Threshold

Fecha de evaluación: 2025-12-31 18:38:10  
Total de muestras: 48937  
Batch size: 16  
Dispositivo: cuda

## RESULTADOS DE OPTIMIZACIÓN

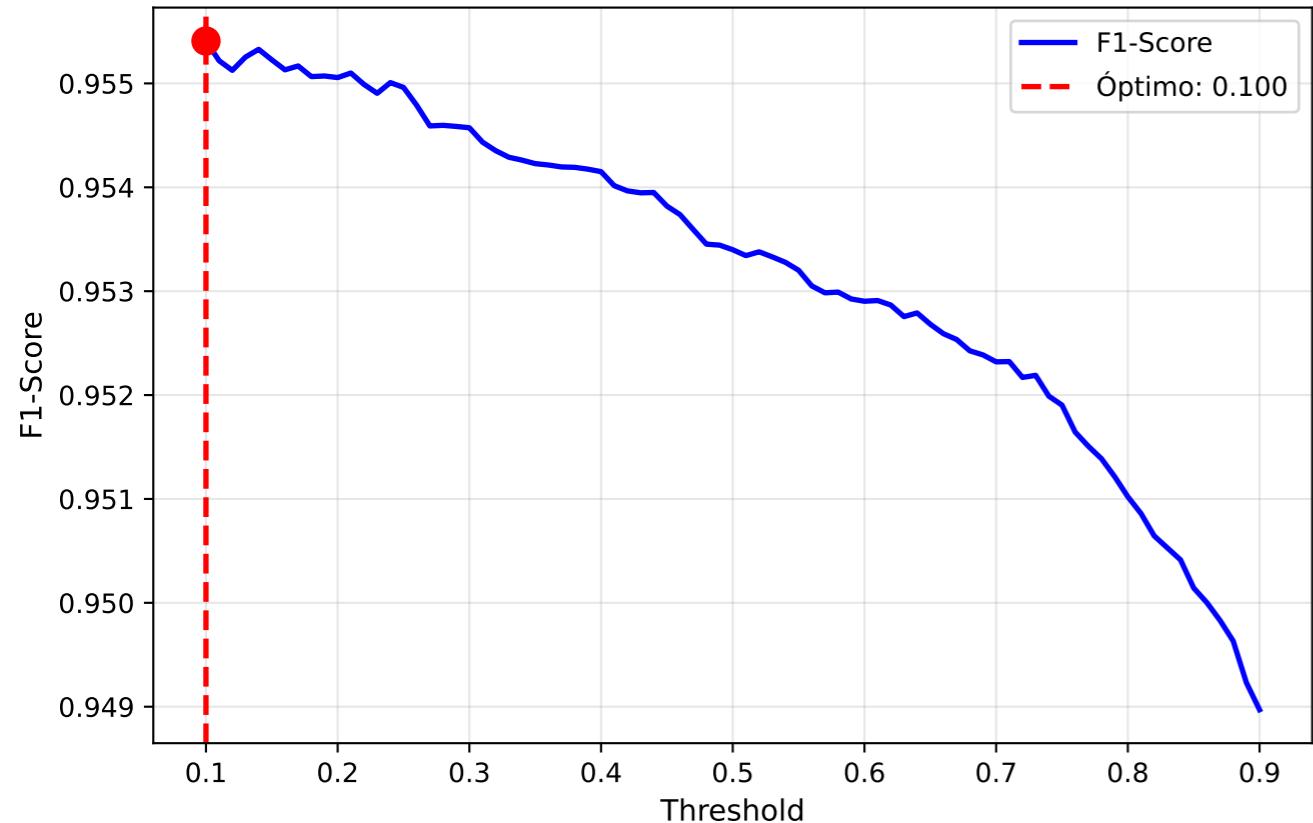
Threshold por Defecto: 0.500  
→ Accuracy: 0.9332 (93.32%)  
→ F1-Score: 0.9337

Threshold Óptimo F1-Score: 0.100  
→ Accuracy: 0.9353 (93.53%)  
→ F1-Score: 0.9353  
→ Mejora F1: +0.16%

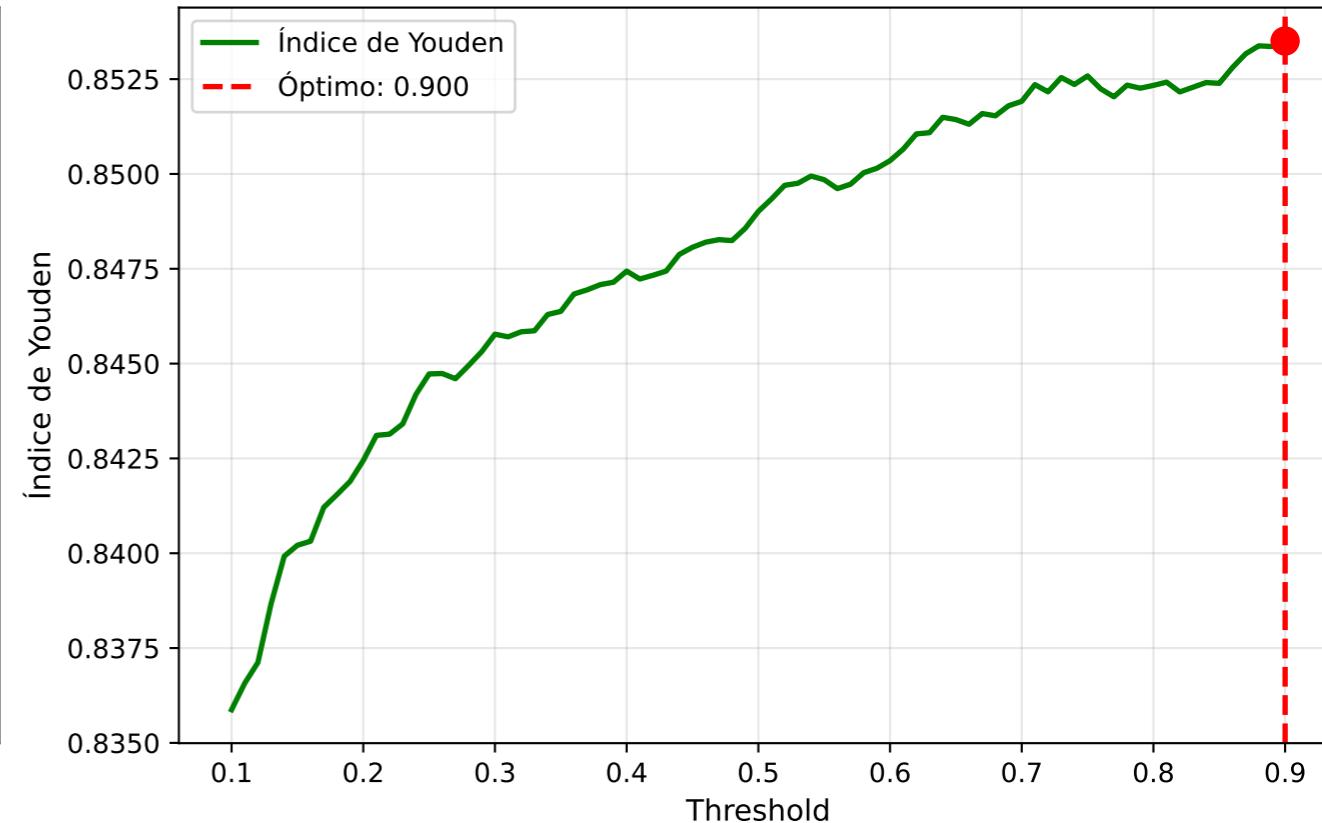
Threshold Óptimo Youden: 0.900  
→ Accuracy: 0.9277 (92.77%)  
→ F1-Score: 0.9288  
→ Índice Youden: 0.8535

# Análisis de Optimización de Threshold

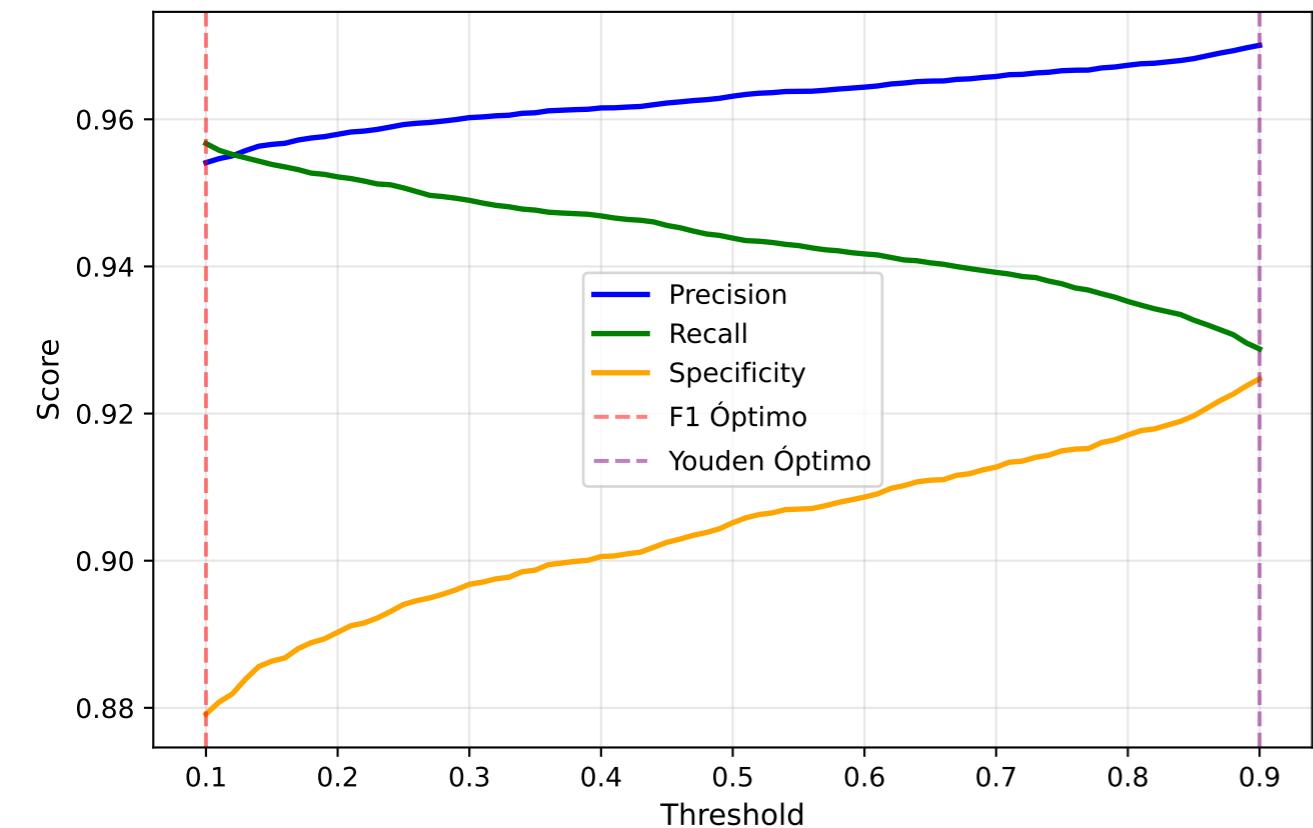
## F1-Score vs Threshold



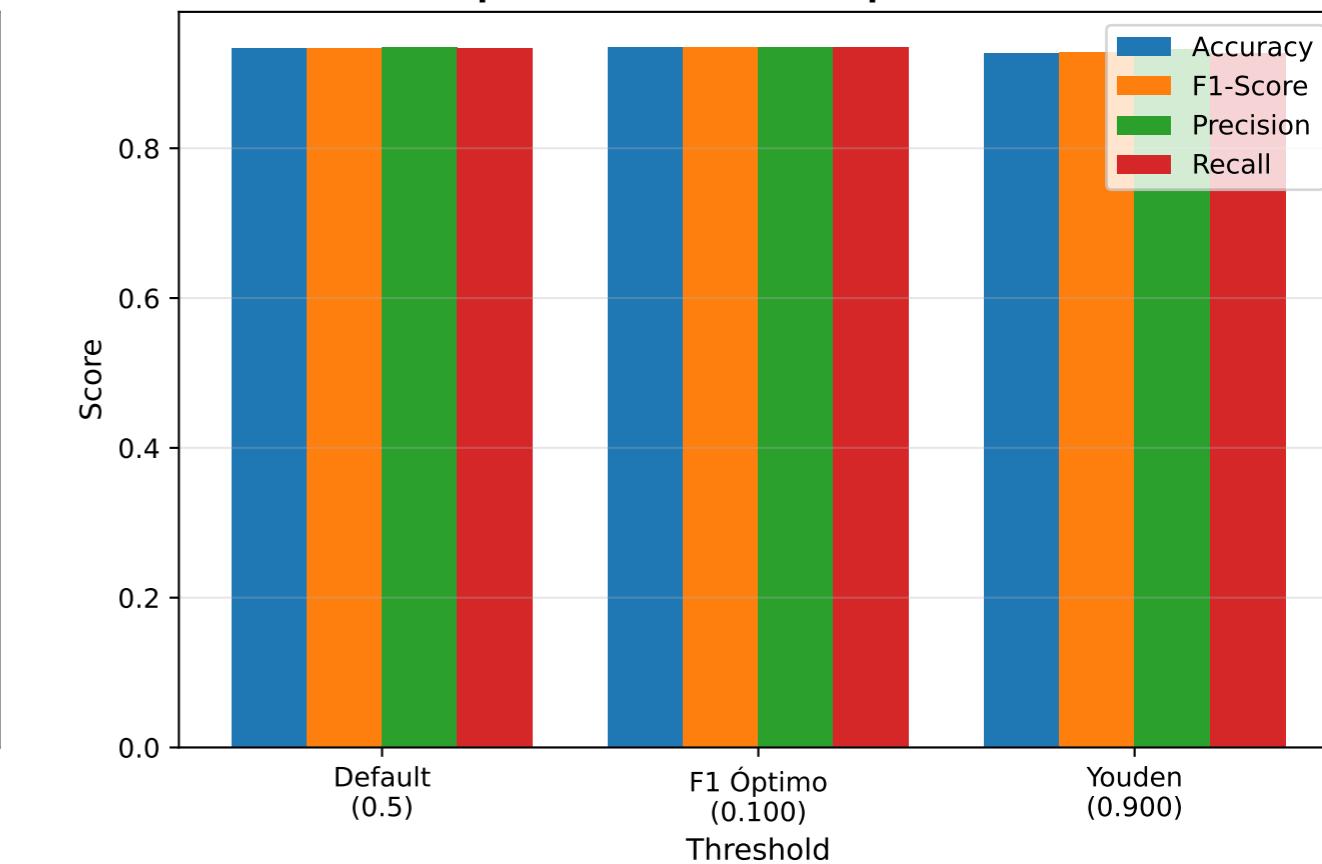
## Índice de Youden vs Threshold



## Métricas vs Threshold

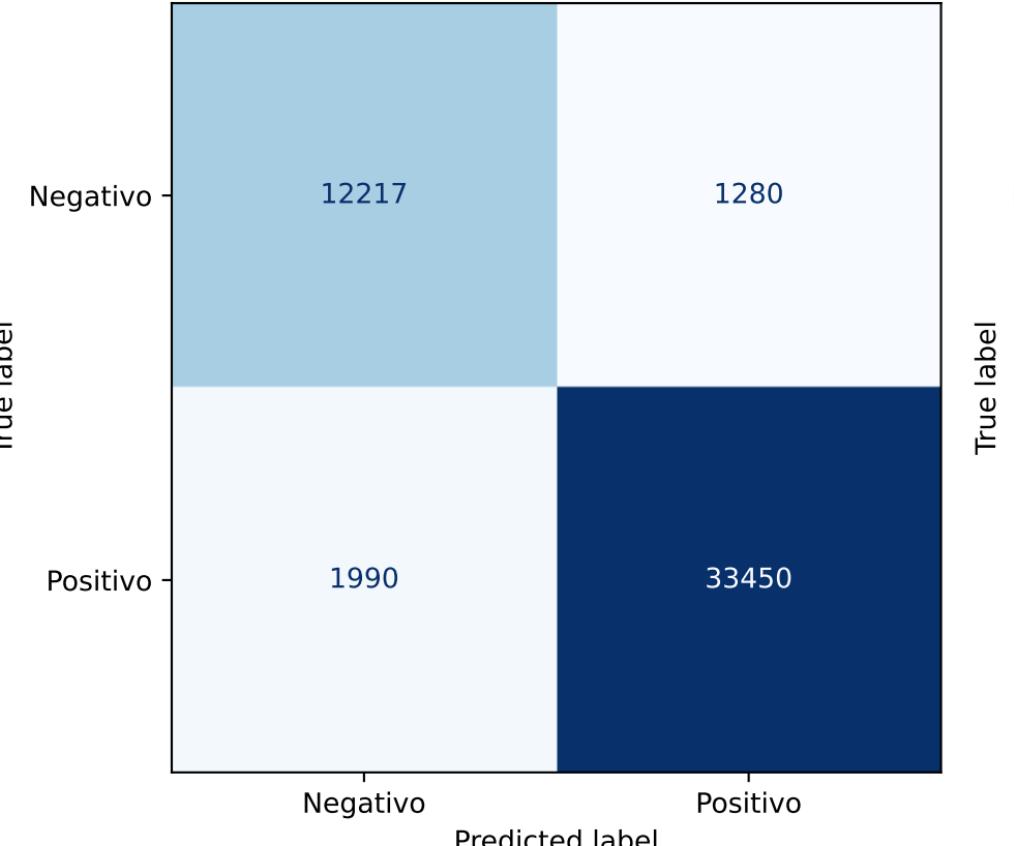


## Comparación de Métricas por Threshold

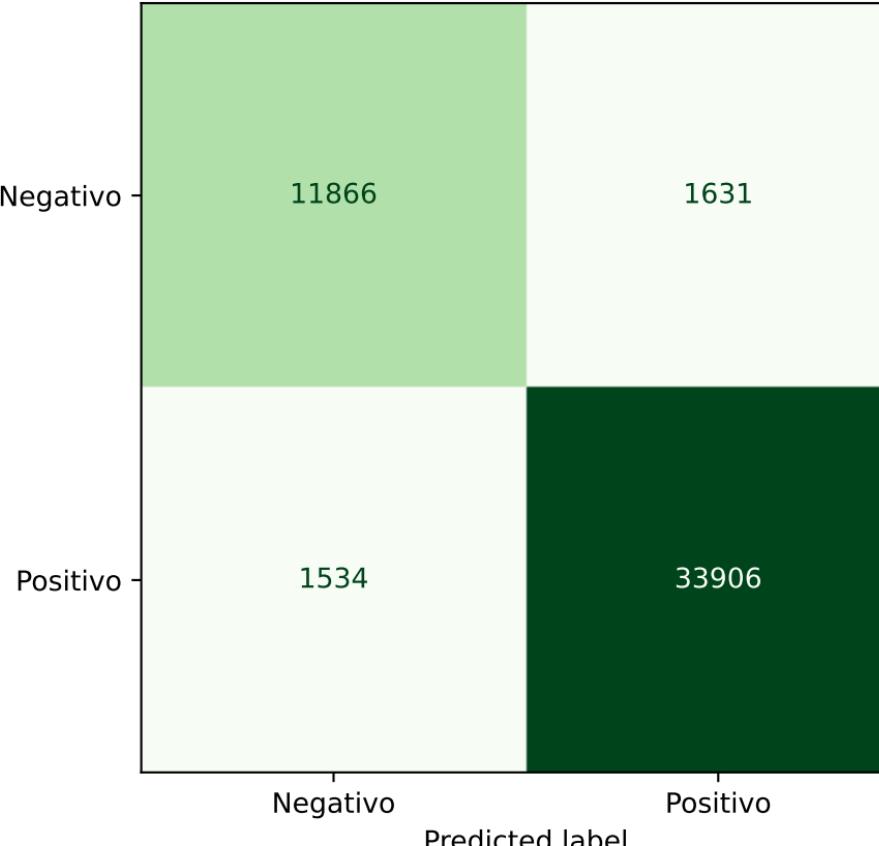


# Matrices de Confusión - Comparación de Thresholds

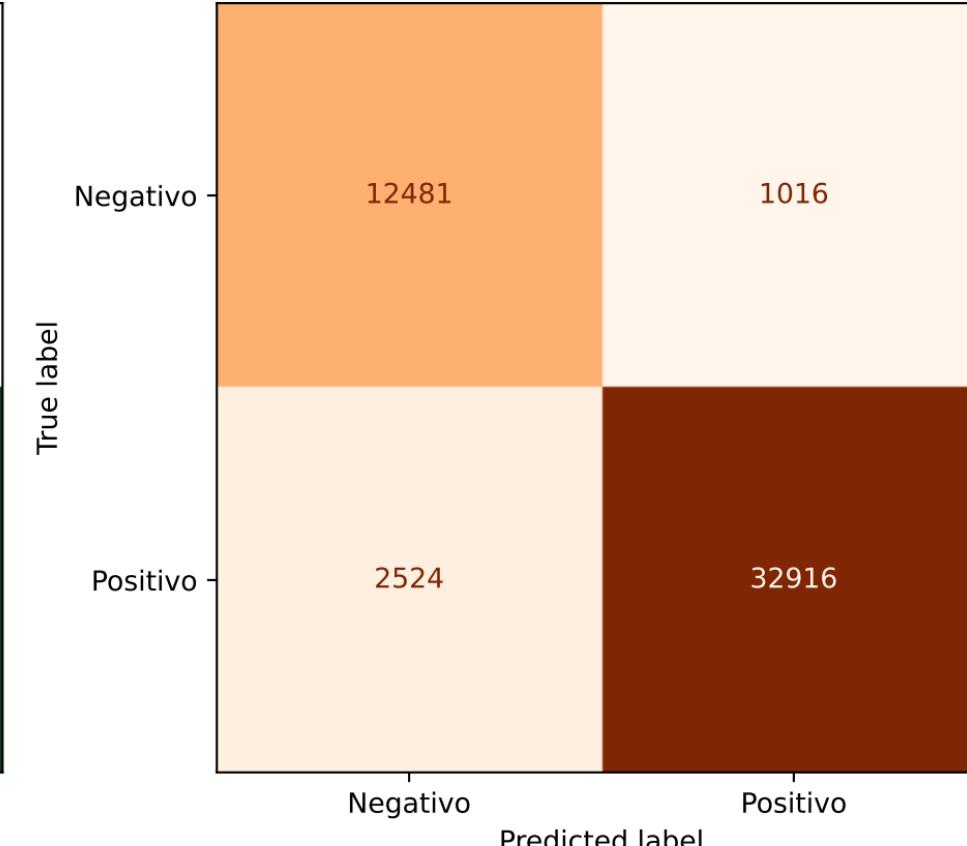
**Threshold Default (0.5)**  
Acc: 0.9332



**Threshold F1 Óptimo (0.100)**  
Acc: 0.9353



**Threshold Youden (0.900)**  
Acc: 0.9277



## Classification Report - Threshold Default (0.5)

	precision	recall	f1-score	support
Negativo	0.8599	0.9052	0.8820	13497
Positivo	0.9631	0.9438	0.9534	35440
accuracy	0.9332	0.9332	0.9332	0
macro avg	0.9115	0.9245	0.9177	48937
weighted avg	0.9347	0.9332	0.9337	48937

## Classification Report - Threshold F1 Óptimo (0.100)

	precision	recall	f1-score	support
Negativo	0.8855	0.8792	0.8823	13497
Positivo	0.9541	0.9567	0.9554	35440
accuracy	0.9353	0.9353	0.9353	0
macro avg	0.9198	0.9179	0.9189	48937
weighted avg	0.9352	0.9353	0.9353	48937

## Classification Report - Threshold Youden (0.900)

	precision	recall	f1-score	support
Negativo	0.8318	0.9247	0.8758	13497
Positivo	0.9701	0.9288	0.9490	35440
accuracy	0.9277	0.9277	0.9277	0
macro avg	0.9009	0.9268	0.9124	48937
weighted avg	0.9319	0.9277	0.9288	48937