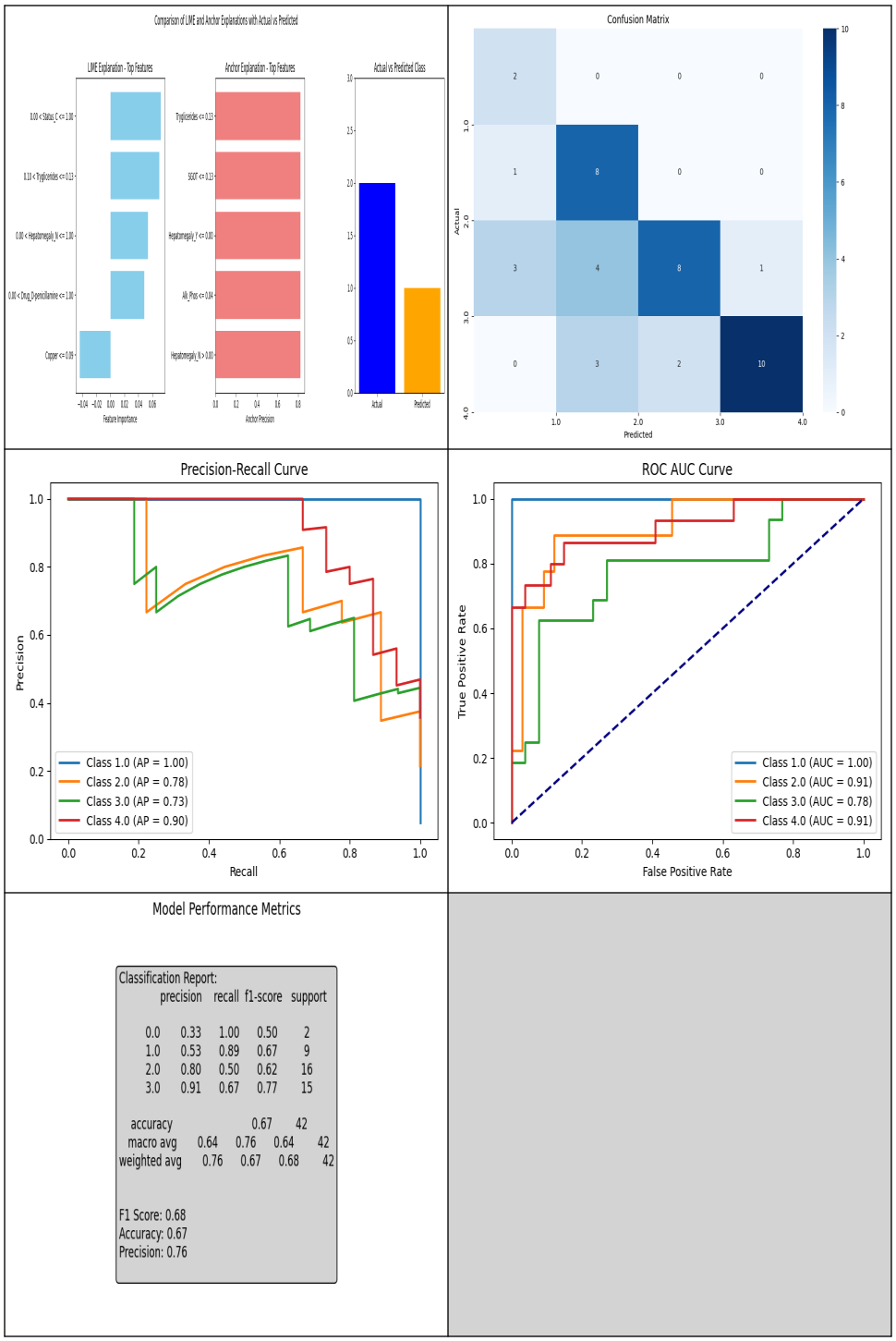
Explainable AI–Based Evaluation Report

Evaluation & ExAI Plots



Original Patient Data

Key	Value	Key	Value
ID	302.72355769230774	N_Days	1271.0
Age	Unknown	Bilirubin	0.7
Cholesterol	335.0	Albumin	3.95
Copper	45.111913357400724	Alk_Phos	657.0
SGOT	52.0	Tryglicerides	104.0
Platelets	332.9660678642714	Prothrombin	10.6
Stage	Unknown	Status	C
Drug	D-penicillamine	Sex	Unknown
Ascites	Unknown	Hepatomegaly	N
Spiders	N	Edema	N

Patient Data Summary

Patient Analysis

1. **Patient Identification**: The patient ID is 302.72355769230774, which is a unique identifier for this patient.

2. **Demographics**: The patient's age is unknown, and the duration of the disease is 1271 days, which is approximately 3.5 years. The sex of the patient is also unknown.

3. **Biochemical Markers**: The patient's biochemical markers show:

- Bilirubin: 0.7, which is within the normal range.

- Cholesterol: 335.0, which is elevated.

- Albumin: 3.95, which is within the normal range.

- Copper: 45.111913357400724, which is elevated.

- Alk_Phos: 657.0, which is significantly elevated.

- SGOT: 52.0, which is within the normal range.

- Tryglicerides:

LLM Detailed Summary

(1). **Actual Class**: 1.0 (2). **Predicted Class**: 1 *Note: The "class" here refers to the liver disease stage.*

Feature Analysis:

1. **LIME Top Features:** - 0.00 < Status_C <= 1.00: Importance 0.07. Clinical relevance: The patient's clinical status is within a normal range, indicating no severe liver disease symptoms. - 0.10 < Tryglicerides <= 0.13: Importance 0.07. Clinical relevance: Elevated triglyceride levels may indicate liver dysfunction, but the range is relatively mild. - 0.00 < Hepatomegaly_N <= 1.00: Importance 0.05. Clinical relevance: The absence of hepatomegaly (enlarged liver) suggests that liver disease is not severe. - 0.00 < Drug_D-penicillamine <= 1.00: Importance 0.05. Clinical relevance: The patient is not taking penicillamine, which is used to treat Wilson's disease, a type of liver disease. - Copper <= 0.09: Importance -0.04. Clinical relevance: Low copper levels are not typically associated with liver disease.

2. **Anchor Features:** - Features: Tryglicerides <= 0.13, SGOT <= 0.13, Hepatomegaly_Y <= 0.00, Alk_Phos <= 0.04, Hepatomegaly_N > 0.00 - Overall Precision: 0.8216 - Detailed Analysis: - Tryglicerides <= 0.13: Elevated triglyceride levels may indicate liver dysfunction, but the range is relatively mild. Clinical relevance: Further monitoring of lipid profiles is recommended. - SGOT <= 0.13: Normal serum glutamic-oxaloacetic transaminase (SGOT) levels suggest that liver damage is not severe. Clinical relevance: Regular liver function tests are recommended. - Hepatomegaly_Y <= 0.00: The absence of hepatomegaly (enlarged liver) suggests that liver disease is not severe. Clinical relevance: Further evaluation of liver function is recommended. - Alk_Phos <= 0.04: Normal alkaline phosphatase levels suggest that liver damage is not severe. Clinical relevance: Regular liver function tests are recommended. - Hepatomegaly_N > 0.00: The presence of hepatomegaly (enlarged liver) suggests that liver disease is present. Clinical relevance: Further evaluation of liver function is recommended.

Model Interpretation: - The LIME top features indicate that the patient's clinical status, triglyceride levels, hepatomegaly, and drug treatment are all contributing factors to the predicted liver disease stage. - The anchor features further support the prediction, with elevated triglyceride levels, normal SGOT levels, and the absence of hepatomegaly all contributing to the predicted outcome.

Conclusion: - Based