

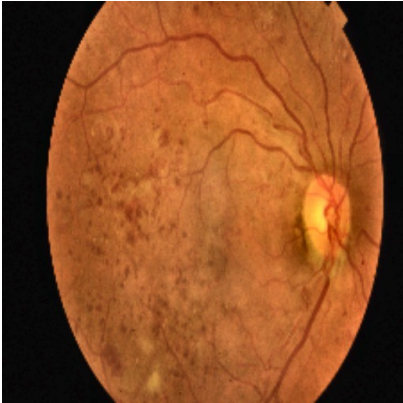
Patient Metadata

Full_Name: Jenifer
Age: 56
Gender: Female
Systolic: 180
Diastolic: 110
Glucose_Level: 343

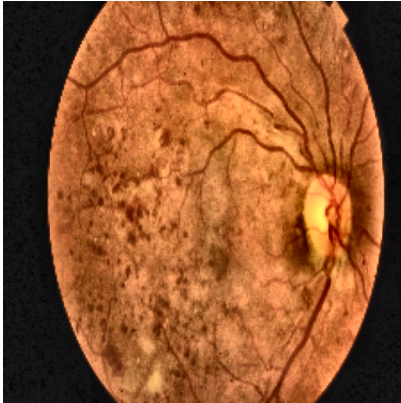
BMI: 30.8
Duration: 14
Smoking: Yes
Hypertension: Yes
Family_History: Yes

Diagnostic Summary

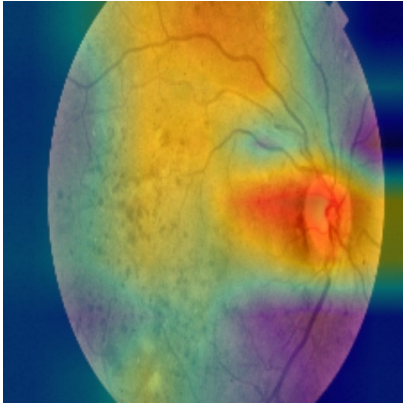
Predicted: SEVERE | Confidence: 56.15%
Composite Risk Score: 96.40
Original



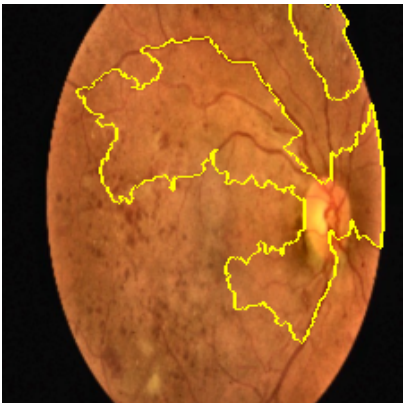
Preprocessed



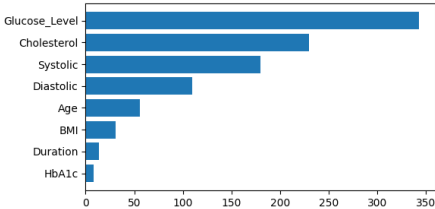
GradCAM



LIME



SHAP (Feature Importance)



Lesion Analysis & Quantification

Lesion Quantification:
exudates: 19.102
hemorrhages: 0.333
cotton_wool: 0.0
lesion_percentage: 19.435

Clinical Interpretation & Recommendations

- High risk of progression to proliferative disease; urgent review advised.
- If macular edema suspected, order OCT.
- Refer to retina specialist for high hemorrhagic burden.
- Optimize systemic therapy (glycemic, BP, lipid control).
- Consider photographic follow-up and OCT monitoring (1–3 months depending on severity).

Model Evaluation Metrics

Accuracy: 0.947
F1-score: 0.938
AUC/ROC: 0.971