VisionAI — Clinical Diagnostic Report

Doctor's Summary (AI-Assisted)

Patient Details

Patient ID	aug_3223686
Age	61.0
Gender	Male
Blood Pressure	142.0/72.0
Glucose Level (mg/dL)	110.0

AI Diagnosis Summary

Detected Stage: PDR (Proliferative DR)

Risk Level: Critical
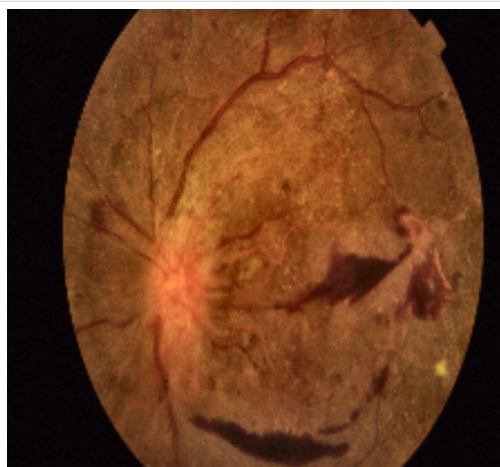
Model Confidence: 94.2%
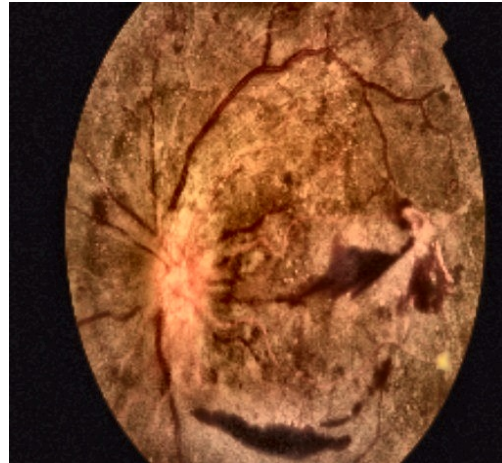
Lesion Coverage: 26.51%

Interpretability Overview

• Grad-CAM++ highlights vascular abnormalities and microaneurysms around macular and optic disc.
• LIME++ reveals locally significant retinal regions influencing AI decision.
• SHAP identifies systemic factors (elevated glucose, BP, age > 60) as major risk contributors.
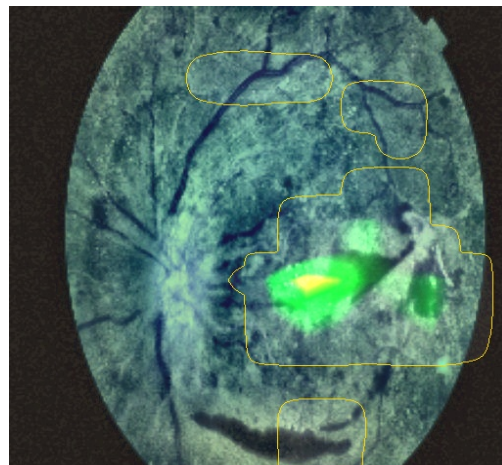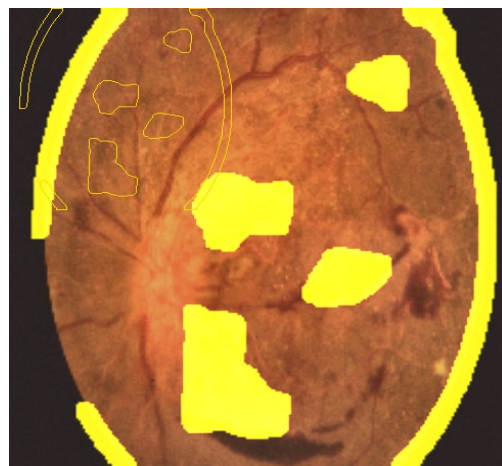
Visual Evidence
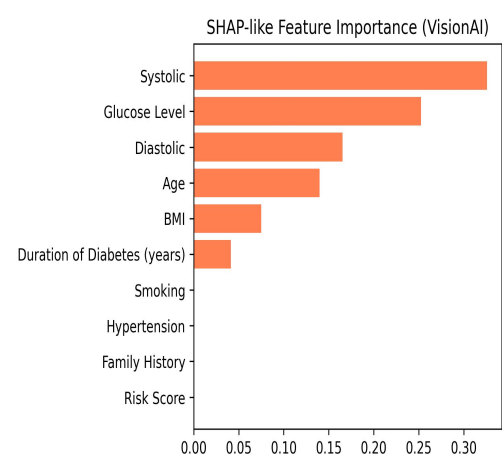

Original Fundus Image

After Preprocessing (CLAHE)

Grad-CAM++ Heatmap

LIME++ Explanation

SHAP-like Feature Importance (VisionAI)

SHAP Feature Influence

Clinical Recommendations

- Immediate ophthalmologist referral (PDR requires urgent management).
- Consider fluorescein angiography for neovascularization assessment.
- Initiate strict blood glucose and BP control measures.
- Schedule monthly follow-up retinal imaging for progression monitoring.