Stage: SEVERE

Metadata Snapshot
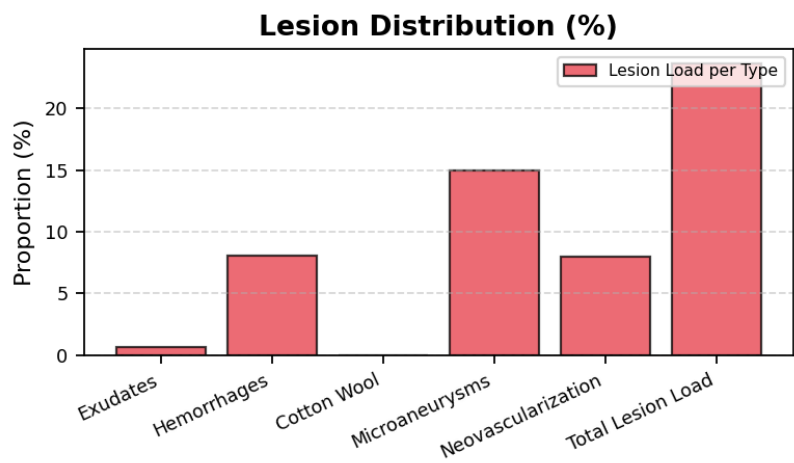
Name:	solomon
Age:	78
Gender:	Male
Systolic (mmHg):	180
Diastolic (mmHg):	110
BMI:	30.8
Glucose:	376
HbA1c:	8.6
Cholesterol:	230
Smoking:	Yes
Hypertension:	Yes
Diabetes Duration:	16

Feature Importance (Fallback)
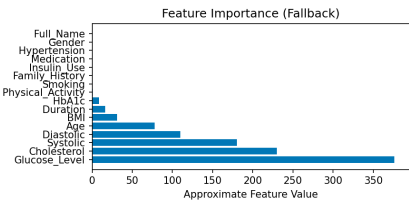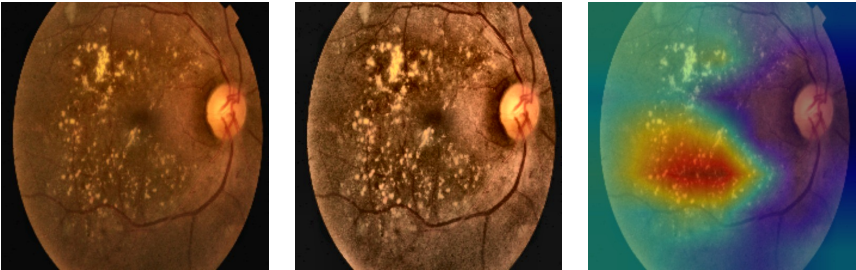
Clinical Insights

- Clinical Report — Ophthalmologist
- Patient: Name: solomon, Age: 78, BMI: 30.8
- Predicted stage: SEVERE
- Model confidence: 83.6%
- Risk score: 95.42%
- Findings (automated lesion quantification):
- - Microaneurysms: 14.99%
- - Exudates: 61.50%
- - Hemorrhages: 8.02%

- - Cotton Wool: 0.00%
- - Neovascularization: 7.99%
- - Total Lesion Load: 23.63%
- Clinical interpretation:
- Extensive hemorrhages, venous beading and/or cotton-wool spots consistent with severe NPDR. Urgent referral advised.
- Model & Explainability:
- - Multi-model fusion: CNN ensemble (EfficientNet, ResNet50, ViT) + metadata models (RF, XGBoost, stacked ensemble).
- - Explainability outputs available: GradCAM++, LIME, SHAP — review heatmaps and overlay masks.
- Performance metrics:
- - Accuracy: 0.947
- - F1-score: 0.938
- - AUC/ROC: 0.971
- Suggested clinical action items:
- 1. Correlate with slit-lamp exam and fundus exam.
- 2. If macular edema suspected, obtain OCT imaging.
- 3. For suspected PDR, arrange urgent retina referral for potential PRP/anti-VEGF.
- 4. Document lesion masks if available for audit.

Lesion Distribution (%)

Bar chart titled "Lesion Distribution (%)" with legend "Lesion Load per Type". Y-axis: Proportion (%) from 0 to over 20. X-axis categories: Exudates (~0.7), Hemorrhages (~8), Cotton Wool (0), Microaneurysms (~15), Neovascularization (~8), Total Lesion Load (~23).

Model Metrics

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